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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:04:13 ; Search time 41.5565 Seconds
(without alignments)
353.554 Million cell updates/sec

Title: US-09-941-314-14

Perfect score: 288
Sequence: 1 KESDDKXHYRIRFLVKVQRQ.....MOWTCKQKPTTCVQPERE 52

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues
Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_29Jan04:*
1: geneseqp1980s:*
2: geneseqp1980s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	288	100.0	52	AAU79864	AAU79864 Human cys
2	288	100.0	80	AAU79865	AAU79865 Human cys
3	288	100.0	115	AAU79853	AAU79853 Human cys
4	288	100.0	117	AAU79854	AAU79854 Human cys
5	288	100.0	137	AAU79852	AAU79852 Human cys
6	248	86.1	46	AAU79860	AAU79860 Human cys
7	248	86.1	49	AAU79863	AAU79863 Human cys
8	194	67.4	59	AAU79866	AAU79866 Human cys
9	189	65.6	33	AAU79862	AAU79862 Human cys
10	138	47.9	24	AAU79861	AAU79861 Human cys
11	133	46.2	48	AAU79867	AAU79867 Human cys
12	131	45.5	142	AAE02404	AAE02404 Murine cys
13	131	45.5	142	AAE04433	AAE04433 Mouse cys
14	131	45.5	143	ADA14374	ADA14374 Mouse spe
15	124	43.1	142	ADD46708	ADD46708 Rat Prote
16	124	43.1	142	ADD46704	ADD46704 Rat Prote
17	119	41.3	27	AAU79859	AAU79859 Human cys
18	119	41.3	35	AAU79858	AAU79858 Human cys
19	117	40.6	92	AAW78259	AAW78259 Fragment
20	117	40.6	123	AAW78260	AAW78260 Fragment
21	117	40.6	142	AAW78258	AAW78258 Fragment
22	117	40.6	142	AAE02405	AAE02405 Human cys
23	117	40.6	142	AAE04434	AAE04434 Human cys
24	117	40.6	142	ADA57231	ADA57231 Human sec
25	117	40.6	142	ADA41112	ADA41112 Human sec

26	117	40.6	142	7	ADC74335	ADC74335 Human sec
27	117	40.6	142	7	ADD37980	ADD37980 Human sec
28	117	40.6	142	7	ADD46706	ADD46706 Human Pro
29	117	40.6	142	7	ADD46710	ADD46710 Human Pro
30	114	39.6	141	3	AAV96576	AAV96576 Murine cy
31	114	39.6	141	3	AAE02403	AAE02403 Murine cy
32	114	39.6	141	4	AAE04432	AAE04432 Mouse tes
33	112	38.9	113	6	ADA57563	ADA57563 Human sec
34	112	38.9	113	6	ADA1457	ADA1457 Human sec
35	112	38.9	113	7	ADC74577	ADC74577 Human sec
36	112	38.9	113	7	ADD38088	ADD38088 Human sec
37	112	38.9	114	2	AAW78153	AAW78153 Human sec
38	106	36.8	127	7	ADB61282	ADB61282 Rat Prote
39	106	36.8	127	7	ADB61286	ADB61286 Rat Prote
40	106	36.8	142	5	ABG60085	ABG60085 Human DIT
41	104	36.1	50	4	AAW15096	AAW15096 Peptide #
42	104	36.1	50	4	ABB34086	ABB34086 Peptide #
43	104	36.1	50	4	AAW27545	AAW27545 Peptide #
44	104	36.1	50	4	ABB32389	ABB32389 Peptide #
45	104	36.1	50	4	ABB28913	ABB28913 Peptide #

ALIGNMENTS

RESULT 1
AAU79864
ID AAU79864 standard; peptide; 52 AA.
XX
AC AAU79864;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #12.
XX
KM Cystatin-8; Zcys8; Cancer; procoagulant protein; thrombosis;
KW spermatozoensis; seminal fluid viscosity; cryopreserved sperm;
KW sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.
XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001MO-US026668.
XX
PR 01-SEP-2000; 2000US-0230230P.
XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
DR WPI; 2002-383044/41.
XX
PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 98; 100pp; English.
XX
CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis; modulating seminal
CC fluid viscosity; enhancing viability of cryopreserved sperm; sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large

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CC quantifies of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (1) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (1) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
 CC
 XX
 SQ Sequence 52 AA;

Query Match 100.0%; Score 288; DB 5; Length 52;
 Best Local Similarity 100.0%; Pred. No. 4.1e-30;
 Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFFVLKXQROVTDHLEYNLVEMQWTTCCQPEFTTNCVPOERE 52
 Db 1 KESDDKXHFRIFFVLKXQROVTDHLEYNLVEMQWTTCCQPEFTTNCVPOERE 52

RESULT 2

AAU79865
 ID AAU79865 standard; peptide; 80 AA.
 AC AAU79865;
 XX
 XX

DT 15-JUL-2002 (first entry)
 XX

DE Human cystatin-8 (Zcys8) antigenic fragment #13.
 XX

KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic peptide.
 XX

OS Homo sapiens.
 XX

PN WO200220567-A2.
 XX

PD 14-MAR-2002.
 XX

PF 29-AUG-2001; 2001WO-US026868.
 XX

PR 01-SEP-2000; 2000US-0230230P.
 XX

PA (ZYMO) ZYMOGENETICS INC.
 XX

PI Holloway JL, Gao Z, Bishop PD;
 XX

DR WPI; 2002-383044/41.
 XX

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.
 XX

PS Claim 2; Page 98; 100pp; English.
 XX

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (1). (1) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis; modulating seminal
 CC fluid viscosity; enhancing viability of cryopreserved sperm; sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(1) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (1) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The

CC polynucleotide encoding (1) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
 CC
 XX
 SQ Sequence 80 AA;

Query Match 100.0%; Score 288; DB 5; Length 80;
 Best Local Similarity 100.0%; Pred. No. 6.8e-30;
 Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFFVLKXQROVTDHLEYNLVEMQWTTCCQPEFTTNCVPOERE 52
 Db 4 KESDDKXHFRIFFVLKXQROVTDHLEYNLVEMQWTTCCQPEFTTNCVPOERE 55

RESULT 3

AAU79853
 ID AAU79853 standard; protein; 115 AA.
 AC AAU79853;
 XX
 XX

DT 15-JUL-2002 (first entry)
 XX

DE Human cystatin-8 (Zcys8) antigenic fragment #1.
 XX

KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic fragment.
 XX

OS Homo sapiens.
 XX

PN WO200220567-A2.
 XX

PD 14-MAR-2002.
 XX

PF 29-AUG-2001; 2001WO-US026868.
 XX

PR 01-SEP-2000; 2000US-0230230P.
 XX

PA (ZYMO) ZYMOGENETICS INC.
 XX

PI Holloway JL, Gao Z, Bishop PD;
 XX

DR WPI; 2002-383044/41.
 XX

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.
 XX

PS Claim 2; Page 94; 100pp; English.
 XX

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (1). (1) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis; modulating seminal
 CC fluid viscosity; enhancing viability of cryopreserved sperm; sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(1) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (1) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (1) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.

CC This sequence represents an antigenic fragment of human cystatin-8
 CC (Zcys8)
 CC
 CC Sequence 115 AA;
 SQ
 Query Match 100.0%; Score 288; DB 5; Length 115;
 Best Local Similarity 100.0%; Pred. No. 1e-29;
 Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 1 KESDDKTHFRIFRYLKVQROVTDHLEHNLVNMQMTTCQKPEFTNCVPOERE 52
 Db 34 KESDDKTHFRIFRYLKVQROVTDHLEHNLVNMQMTTCQKPEFTNCVPOERE 85
 RESULT 4
 AAU79854
 ID AAU79854 standard; protein: 117 AA.
 AC AAU79854;
 XX
 XX 15-JUL-2002 (first entry)
 DT
 XX Human cystatin-8 (Zcys8) antigenic fragment #2.
 DE
 XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic fragment.
 KM
 OS Homo sapiens.
 XX
 XX WO200220567-A2.
 PN
 XX 14-MAR-2002.
 PD
 XX 29-AUG-2001; 2001WO-US02668.
 PF
 XX 01-SEP-2000; 2000US-0230230P.
 PR
 XX (ZYMO) ZYMOGENETICS INC.
 PA
 PI Holloway JL, Gao Z, Bishop PD;
 PI
 PI WPI; 2002-383044/41.
 DR
 XX Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.
 PS
 PS Claim 2; Page 94-95; 100p; English.
 CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis, modulating seminal
 CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic fragment of human cystatin-8
 CC (Zcys8)
 CC

SQ Sequence 117 AA;
 Query Match 100.0%; Score 288; DB 5; Length 117;
 Best Local Similarity 100.0%; Pred. No. 1.1e-29;
 Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 1 KESDDKTHFRIFRYLKVQROVTDHLEHNLVNMQMTTCQKPEFTNCVPOERE 52
 Db 36 KESDDKTHFRIFRYLKVQROVTDHLEHNLVNMQMTTCQKPEFTNCVPOERE 87
 RESULT 5
 AAU79852
 ID AAU79852 standard; protein: 137 AA.
 AC AAU79852;
 XX
 XX 15-JUL-2002 (first entry)
 DT
 XX Human cystatin-8 (Zcys8).
 DE
 XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation.
 KM
 OS Homo sapiens.
 XX
 XX WO200220567-A2.
 PN
 XX 14-MAR-2002.
 PD
 XX 29-AUG-2001; 2001WO-US02668.
 PF
 XX 01-SEP-2000; 2000US-0230230P.
 PR
 XX (ZYMO) ZYMOGENETICS INC.
 PA
 PI Holloway JL, Gao Z, Bishop PD;
 PI
 PI WPI; 2002-383044/41.
 DR
 XX N-PSDB; ABK49522.
 DR
 XX Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.
 PS
 PS Claim 2; Page 93-94; 100p; English.
 CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis, modulating seminal
 CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This is the amino acid sequence of human cystatin-8 (Zcys8)
 CC
 CC Sequence 137 AA;
 SQ
 Query Match 100.0%; Score 288; DB 5; Length 137;
 CC

Best Local Similarity 100.0%; Pred. No. 1.3e-29;
Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEYNLVNEMQWTTCCQKPEPTN 52
DB 56 KESDDKXHFRIFRVLKQROVTDHLEYNLVNEMQWTTCCQKPEPTN 107

RESULT 6

AAU79860
ID AAU79860 standard; peptide; 46 AA.

XX AAU79860;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8) antigenic fragment #8.

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KM sperm motility; fertilisation; antigenic peptide.

OS Homo sapiens.

XX WO200220567-A2.

XX 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

PR 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

XX WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.

PS Claim 2; Page 97; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)

XX Sequence 46 AA;

Query Match 86.1%; Score 248; DB 5; Length 46;

Best Local Similarity 100.0%; Pred. No. 6.1e-25;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEYNLVNEMQWTTCCQKPEPTN 45

DB 2 KESDDKXHFRIFRVLKQROVTDHLEYNLVNEMQWTTCCQKPEPTN 46

RESULT 7

AAU79863
ID AAU79863 standard; peptide; 49 AA.

XX AAU79863;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8) antigenic fragment #11.

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KM sperm motility; fertilisation; antigenic peptide.

OS Homo sapiens.

XX WO200220567-A2.

XX 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

PR 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

XX WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.

PS Claim 2; Page 97-98; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)

XX Sequence 49 AA;

Query Match 86.1%; Score 248; DB 5; Length 49;

Best Local Similarity 100.0%; Pred. No. 6.6e-25;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEYNLVNEMQWTTCCQKPEPTN 45
DB 5 KESDDKXHFRIFRVLKQROVTDHLEYNLVNEMQWTTCCQKPEPTN 49

RESULT 8
 ID AAU79866 standard; peptide: 59 AA.
 AC AAU79866;
 XX
 AC AAU79866;
 XX
 DT 15-JUL-2002 (first entry)
 XX
 DE Human cystatin-8 (Zcys8) antigenic fragment #14.
 XX
 KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic peptide.
 XX
 OS Homo sapiens.
 XX
 PN WO200220567-A2.
 XX
 PD 14-MAR-2002.
 XX
 PF 29-AUG-2001; 2001WO-US026868.
 XX
 PR 01-SEP-2000; 2000US-0230230P.
 XX
 PA (ZYMO) ZYMOGENETICS INC.
 XX
 PI Holloway JL, Gao Z, Bishop PD;
 DR WPI; 2002-383044/41.
 XX
 PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.
 PS Claim 2; Page 99; 100pp; English.
 XX
 XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis, modulating seminal
 CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
 XX
 SQ Sequence 59 AA;
 Query Match 67.4%; Score 194; DB 5; Length 59;
 Best Local Similarity 100.0%; Pred. No. 9.6e-18;
 Matches 34; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 19 ROYTDHLEHYHNVEMQWTTCKPPTNCVPOERE 52
 DB 1 ROYTDHLEHYHNVEMQWTTCKPPTNCVPOERE 34
 RESULT 9
 ID AAU79862 standard; peptide: 33 AA.
 XX

AC AAU79862;
 XX
 DT 15-JUL-2002 (first entry)
 XX
 DE Human cystatin-8 (Zcys8) antigenic fragment #10.
 XX
 KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic peptide.
 XX
 OS Homo sapiens.
 XX
 PN WO200220567-A2.
 XX
 PD 14-MAR-2002.
 XX
 PF 29-AUG-2001; 2001WO-US026868.
 XX
 PR 01-SEP-2000; 2000US-0230230P.
 XX
 PA (ZYMO) ZYMOGENETICS INC.
 XX
 PI Holloway JL, Gao Z, Bishop PD;
 DR WPI; 2002-383044/41.
 XX
 PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.
 PS Claim 2; Page 97; 100pp; English.
 XX
 XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis, modulating seminal
 CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
 XX
 SQ Sequence 33 AA;
 Query Match 65.6%; Score 189; DB 5; Length 33;
 Best Local Similarity 100.0%; Pred. No. 2.2e-17;
 Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 20 QYTDHLEHYHNVEMQWTTCKPPTNCVPOERE 52
 DB 1 QYTDHLEHYHNVEMQWTTCKPPTNCVPOERE 33
 RESULT 10
 ID AAU79861 standard; peptide: 24 AA.
 XX
 AC AAU79861;
 XX
 DT 15-JUL-2002 (first entry)
 XX

DE Human cystatin-8 (Zcys8) antigenic fragment #9.
 XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KW sperm motility; fertilisation; antigenic peptide.
 XX Homo sapiens.
 OS
 PN WO200220567-A2.
 XX
 PD 14-MAR-2002.
 XX
 PF 29-AUG-2001; 2001WO-US026868.
 XX
 PR 01-SEP-2000; 2000US-0230230P.
 XX
 PA (ZYMO) ZYMOGENETICS INC.
 PI Holloway JL, Gao Z, Bishop PD;
 XX WPI; 2002-383044/41.
 XX
 PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.
 PS
 PS Claim 2; Page 97; 100pp; English.
 XX
 CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis, modulating seminal
 CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
 CC
 CC Sequence 24 AA;
 SQ
 QY Query Match 47.9%; Score 138; DB 5; Length 24;
 Best Local Similarity 100.0%; Pred. NO. 7.2e-11;
 Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 DB 19 RQVTDHLEHYHNVEMQWTCCKPE 42
 1 RQVTDHLEHYHNVEMQWTCCKPE 24
 RESULT 11
 ID AAV79867
 AC AAV79867
 AC AAV79867;
 DT 15-JUL-2002 (first entry)
 XX
 DE Human cystatin-8 (Zcys8) antigenic fragment #15.
 XX
 KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;

KW sperm motility; fertilisation; antigenic peptide.
 XX
 OS Homo sapiens.
 XX
 PN WO200220567-A2.
 XX
 PD 14-MAR-2002.
 XX
 PF 29-AUG-2001; 2001WO-US026868.
 XX
 PR 01-SEP-2000; 2000US-0230230P.
 XX
 PA (ZYMO) ZYMOGENETICS INC.
 PI Holloway JL, Gao Z, Bishop PD;
 XX WPI; 2002-383044/41.
 XX
 PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.
 PS
 PS Claim 2; Page 99; 100pp; English.
 XX
 CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis, modulating seminal
 CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
 CC
 CC Sequence 48 AA;
 SQ
 QY Query Match 46.2%; Score 133; DB 5; Length 48;
 Best Local Similarity 100.0%; Pred. NO. 7.3e-10;
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 DB 30 NVEMQWTCCKPEPTNCVPERE 52
 1 NVEMQWTCCKPEPTNCVPERE 23
 RESULT 12
 ID AAE02404
 AC AAE02404
 AC AAE02404;
 DT 10-AUG-2001 (first entry)
 XX
 DE Murine cystatin-related epididymal specific protein (CREs).
 XX
 KM Murine; cystatin T; zcys3; cystatin-related epididymal specific protein;
 KM CREs; inhibitor; cysteine proteinase; male reproductive tissue; testis;
 KM spermatogenesis; therapy; reproductive disorder.
 XX
 OS Mus musculus.
 XX

```

PT  cysactin T, useful in gene therapy for modulating cystatin T activity,
PT  particularly for modulating spermatogenesis, or enhancing sperm
PT  production or fertility.
XX
XX  Disclosure; Col 47-48; 33pp; English.
XX
XX  The present sequence is mouse cystatin-related epididymal specific (CRES)
XX  protein which is homologous to mouse testis specific cystatin T (also
XX  known as zcy63). The cystatin T polynucleotide is useful in gene therapy
XX  applications, where it is desired to increase or inhibit cystatin T
XX  activity. It is also useful for producing cystatin T polypeptide, as well
XX  as for detecting the expression of a cystatin T gene in a biological
XX  sample. The cystatin T is useful for modulating spermatogenesis, and may
XX  be used to study or modulate that function in vitro or in vivo
XX  systems. In particular, it is also useful for enhancing sperm production,
XX  increasing the number of viable sperm in a sample, or enhancing
XX  fertilisation
XX
XX  Sequence 142 AA:
XX
XX  Query Match          45.5%; Score 131; DB 4; Length 142;
XX  Best Local Similarity 41.5%; Pred. No. 4.7e-09;
XX  Matches 22; Conservative 16; Mismatches 13; Indels 2; Gaps 1
XX
XX  1 KESDDKHFRRFPRVAKVGROWTDHEVHLNVEMQWTKCKP--ETTNCVPOER 51
XX  58 KESEDKVFVLDKILHARKLQITDRMEYQIDVQISRNCKKPLNNTEHCIPQKK 110
XX
XX  RESULT 14
XX  ID ADA14374 standard; protein, 143 AA.
XX  AC ADA14374;
XX  DT 06-NOV-2003 (first entry)
XX
XX  Mouse spermatogenesis related protein sequence SEQ ID NO:116.
XX
XX  mouse; spermatogenesis; gene cluster; mutagenicity;
XX  reproductive toxicity; reproductive capacity; mutation;
XX  expression abnormality; human male sterility associated gene; scot-t;
XX  succinyl CoA:3-oxo acid CoA transferase; human male sterility.
XX
XX  Mus musculus.
XX
XX  WO2003068969-A1.
XX
XX  21-AUG-2003.
XX
XX  14-FEB-2003; 2003WO-JP001572.
XX
XX  14-FEB-2002; 2002JP-00036649.
XX  27-DEC-2002; 2002JP-00381241.
XX
XX  (NISC-) JAPAN SCI & TECHNOLOGY CORP.
XX
XX  Nishimune Y, Tanaka H, Nozaki M;
XX  WPI; 2003-671663/63.
XX  N-PSDB; ADA14477.
XX
XX  Mouse spermatogenesis gene cluster and human male sterility associated
XX  genes, useful for diagnosis of human male sterility and testing
XX  substances for reproductive toxicity.
XX
XX  Claim 6; Page 155; 262pp; Japanese.
XX
XX  The present invention describes a mouse spermatogenesis gene cluster
XX  containing 89 genes (see the cDNA sequences of ADA14442 to ADA14530).
XX  Also described: (1) a cDNA library containing cDNA encoding the gene
XX  cluster; (2) oligonucleotides of 10-39 bases containing partial sequences
XX  of genes of the cluster; (3) microarrays containing these

```

CC oligonucleotides; (4) primer sets for PCR amplification of cDNA or
 CC genomic DNA for genes of the cluster; (5) polypeptides encoded by the
 CC genes in the cluster; (6) antibodies to these polypeptides; (7) a method
 CC for testing the mutagenicity and reproductive toxicity of a test
 CC substance, and assessment of the reproductive capacity of a test
 CC individual, by analysis of mutation and expression abnormalities of genes
 CC in the cluster; (8) polynucleotides which are mutations of the human male
 CC sterility associated gene scot-c (succinyl CoA:3-oxo acid CoA transferase
 CC gene) having one or more of the following specific mutations: T123C,
 CC T870G, C1071T, T1657C; (9) oligonucleotides containing partial sequences
 CC of human scot-c including one or more of the above mutations; (10) primer
 CC sets for PCR amplification of mRNA derived from the mutant scot-c gene;
 CC (11) polypeptides encoded by human scot-c gene and having one or more of
 CC the mutations Leu38Pro, Leu285Arg, Thr352Met; (12) polynucleotides which
 CC are mutations of the human male sterility associated gene protamine2,
 CC having C248T; (13) polypeptides encoded by this mutant protamine2 gene;
 CC (14) antibodies (including labelled antibodies) to these polypeptides;
 CC (15) a method for determining the presence or absence of these mutant
 CC polynucleotides in genomic DNA; (16) diagnosis of human male sterility
 CC using this method; (17) DNA probes containing sequences of these mutant
 CC polynucleotides; and (18) DNA chip containing sequences derived from
 CC these mutant polynucleotides. The methods of the present invention can be
 CC used in the diagnosis of human male sterility; testing the reproductive
 CC capacity and mutagenicity of substances; and assessing the reproductive
 CC capacity of individuals. The present sequence represents a mouse
 CC spermatogenesis related protein, which is encoded by a cDNA sequence from
 CC the mouse spermatogenesis gene cluster.

XX Sequence 143 AA;

SO Query Match

Best Local Similarity 45.5%; Score 131; DB 6; Length 143;
 Matches 22; Conservative 16; Mismatches 13; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFFVLKQVQVTDHLEHYLNVEMQWTCQRP--ETTNCVPOER 51
 DB 58 KESBDKFLVLDKTLIAKLTQITDMEYHIDVQISRSNCRKPLNNTENCIRPK 110

RESULT 15

ADD46708 standard; protein; 142 AA.

XX ADD46708;

XX 29-JAN-2004 (first entry)

DE Rat Protein AAC6317, SEQ ID NO 12393.

XX Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury;

KW chronic constriction injury; CCI; spared nerve injury; SNI; Chung.

OS Rattus norvegicus.

XX WO2003016475-A2.

XX 27-FEB-2003.

PF 14-AUG-2002; 2002MO-US025765.

XX 14-AUG-2001; 2001US-0312147P.

PR 01-NOV-2001; 2001US-0346382P.

XX 26-NOV-2001; 2001US-0333347P.

XX (GEHO) GEN HOSPITAL CORP.

XX (FARB) BAYER AG.

XX Woolf C, D'urso D, Befort K, Costigan M;

XX WPI; 2003-266312/26.
 XX GENBANK; AAC6317.
 XX New composition comprising two or more isolated polypeptides, useful for

PT preparing a medicament for treating pain in an animal.
 XX
 XX Claim 1; Page; 1017pp; English.

XX The invention discloses a composition comprising two or more isolated rat
 CC or human polynucleotides or a polynucleotide which represents a fragment,
 CC derivative or allelic variation of the nucleic acid sequence. Also
 CC claimed are a vector comprising the novel polynucleotide, a host cell
 CC comprising the vector, a method for identifying a nucleotide sequence
 CC which is differentially regulated in an animal subjected to pain and a
 CC kit to perform the method, an array, a method for identifying an agent
 CC that increases or decreases the expression of the polynucleotide sequence
 CC that is differentially expressed in neuronal tissue of a first animal
 CC subjected to pain, a method for identifying a compound which regulates
 CC the expression of a polynucleotide sequence which is differentially
 CC expressed in an animal subjected to pain, a method for identifying a
 CC compound that regulates the activity of one or more of the
 CC polynucleotides, a method for producing a pharmaceutical composition, a
 CC method for identifying a compound or small molecule that regulates the
 CC activity in an animal of one or more of the polypeptides given in the
 CC specification, a method for identifying a compound useful in treating
 CC pain and a pharmaceutical composition comprising the one or more
 CC polypeptides or their antibodies. The polynucleotide or the compound that
 CC modulates its activity is useful for preparing a medicament for treating
 CC pain (e.g. spinal segmental nerve injury (Chung), chronic constriction
 CC injury (CCI) and spared nerve injury (SNI)) in an animal (e.g. gene
 CC therapy). The sequence presented is a rat protein (shown in Table 2 of
 CC the specification) which is differentially expressed during pain. Note:
 CC The sequence data for this patent did not form part of the printed
 CC specification, but was obtained in electronic form directly from WIPO at
 CC ftp.wipo.int/pub/published_pct_sequences.

XX Sequence 142 AA;

SO Query Match

Best Local Similarity 43.1%; Score 124; DB 7; Length 142;
 Matches 22; Conservative 13; Mismatches 15; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFFVLKQVQVTDHLEHYLNVEMQWTCQRP--ETTNCVPOE 50
 DB 58 KESBDKFLVLDKTLIAKLTQITDMEYHIDVQISRSNCRKPLNNTENCIRPK 109

Search completed: March 23, 2004, 17:10:27
 Job time : 43.5565 secs

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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:07:14 ; Search time 11.5314 Seconds

(Without alignments)
232,804 Million cell updates/sec

Title: US-09-941-314-14

Perfect score: 288
Sequence: 1 KESDDKTHFRIFRYLVKVKQRO.....MOMTQCKPRTTNCVPOER 52Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0
Maximum DB seq length: 200000000Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA:*

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- 2: /cgn2_6/ptodata/2/1aa/5B_COMB.pep:*
- 3: /cgn2_6/ptodata/2/1aa/6A_COMB.pep:*
- 4: /cgn2_6/ptodata/2/1aa/6B_COMB.pep:*
- 5: /cgn2_6/ptodata/2/1aa/PCITUS_COMB.pep:*
- 6: /cgn2_6/ptodata/2/1aa/backfile1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	131	45.5	142	3	US-09-431-480-3 Sequence 3, Appli
2	131	45.5	142	3	US-09-617-302-3 Sequence 3, Appli
3	117	40.6	142	3	US-09-431-480-4 Sequence 4, Appli
4	117	40.6	142	3	US-09-617-302-4 Sequence 4, Appli
5	114	39.6	141	3	US-09-431-480-2 Sequence 2, Appli
6	114	39.6	141	3	US-09-617-302-2 Sequence 2, Appli
7	106	36.8	127	4	US-08-849-303-19 Sequence 19, Appli
8	97	33.7	140	4	US-09-886-319A-46 Sequence 46, Appli
9	97	33.7	140	4	US-09-886-319A-48 Sequence 48, Appli
10	96	33.3	120	4	US-09-775-932-2 Sequence 2, Appli
11	96	33.3	120	6	5432264-4 Patent No. 5432264
12	96	33.3	145	2	US-08-832-535-11 Sequence 11, Appli
13	96	33.3	145	2	US-08-791-522-3 Sequence 3, Appli
14	96	33.3	146	3	US-08-744-138-3 Sequence 3, Appli
15	96	33.3	146	3	US-09-019-485-4 Sequence 4, Appli
16	96	33.3	146	3	US-09-314-777-3 Sequence 3, Appli
17	96	33.3	146	3	US-09-431-480-6 Sequence 6, Appli
18	96	33.3	146	3	US-09-617-302-6 Sequence 6, Appli
19	96	33.3	146	4	US-09-241-376-3 Sequence 3, Appli
20	96	33.3	146	4	US-09-528-436B-3 Sequence 3, Appli
21	96	33.3	146	4	US-09-886-319A-47 Sequence 47, Appli
22	96	33.3	146	4	US-09-940-497-3 Sequence 3, Appli
23	96	33.3	146	4	US-09-976-594-37 Sequence 37, Appli
24	96	33.3	146	4	US-08-849-303-17 Sequence 17, Appli
25	96	33.3	146	5	PCT-US95-07135-9 Patent No. 5432264
26	96	33.3	146	6	5432264-6 Patent No. 5432264
27	93	32.3	140	3	US-09-431-480-5 Sequence 5, Appli

28	93	32.3	140	3	US-09-617-302-5 Sequence 5, Appli
29	93	32.3	140	4	US-08-849-303-18 Sequence 18, Appli
30	92	31.9	112	4	US-08-849-303-16 Sequence 16, Appli
31	92	31.9	118	4	US-09-775-932-24 Sequence 24, Appli
32	88	30.6	116	4	US-09-775-932-16 Sequence 16, Appli
33	88	30.6	139	2	US-08-791-522-4 Sequence 4, Appli
34	88	30.6	139	3	US-09-314-777-4 Sequence 4, Appli
35	88	30.6	139	4	US-08-849-303-15 Sequence 15, Appli
36	83.5	29.0	111	4	US-08-849-303-26 Sequence 26, Appli
37	82	28.5	121	4	US-09-775-932-8 Sequence 8, Appli
38	82	28.5	141	3	US-08-744-138-6 Sequence 6, Appli
39	82	28.5	141	4	US-09-241-376-6 Sequence 6, Appli
40	82	28.5	141	4	US-09-940-497-6 Sequence 6, Appli
41	82	28.5	141	4	US-08-849-303-24 Sequence 24, Appli
42	76.5	26.6	162	4	US-08-849-303-25 Sequence 25, Appli
43	75	26.0	121	4	US-09-775-932-14 Sequence 14, Appli
44	75	26.0	122	4	US-09-775-932-10 Sequence 10, Appli
45	75	26.0	128	4	US-09-775-932-12 Sequence 12, Appli

ALIGNMENTS

```
RESULT 1
US-09-431-480-3
Sequence 3, Application US/09431480
Patent No. 6235708
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72
CURRENT APPLICATION NUMBER: US/09/431,480
EARLIER FILING DATE: 1999-11-01
EARLIER APPLICATION NUMBER: 60/109,217
EARLIER FILING DATE: 1998-11-20
EARLIER APPLICATION NUMBER: 60/156,382
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 3
LENGTH: 142
TYPE: PRT
ORGANISM: Mus musculus
US-09-431-480-3

Query Match      45.5%; Score 131; DB 3; Length 142;
Best Local Similarity 41.5%; Pred. No. 3.1e-11;
Matches 22; Conservative 16; Mismatches 13; Indels 2; Gaps 1;

Qy      1 KESDDKTHFRIFRYLVKVKQROVTHLEYHNAVEMOMTTCQKP--ETTCVPOER 51
Db      58 KESDDKTVFLVMDKILHAKQITDMEYQIDVOISRSNCKPLNNTENCIPQKK 110

RESULT 2
US-09-617-302-3
Sequence 3, Application US/09617302
Patent No. 6245529
GENERAL INFORMATION:
APPLICANT: Feldhaus, Andrew L.
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72 C1
CURRENT APPLICATION NUMBER: US/09/617,302
EARLIER FILING DATE: 2000-07-17
PRIOR APPLICATION NUMBER: 09/431,480
PRIOR FILING DATE: 1999-11-01
PRIOR APPLICATION NUMBER: 60/109,217
PRIOR FILING DATE: 1998-11-20
PRIOR APPLICATION NUMBER: 60/156,382
PRIOR FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
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SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 3
LENGTH: 142
TYPE: PRT
ORGANISM: Mus musculus
US-09-617-302-3

Query Match 45.5%; Score 131; DB 3; Length 142;
Best Local Similarity 41.5%; Pred. No. 3.1e-11;
Matches 22; Conservative 16; Mismatches 13; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEVHLNVEQMWTTCOK--ETTCVPOER 51
DB 58 KESBDKYFLVVDKILHAKLQITDMEYQIDQISRSNCKPLNNTENCIPQCK 110

RESULT 3
US-09-431-480-4
Sequence 4, Application US/09431480
Patent No. 6235708
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72
CURRENT APPLICATION NUMBER: US/09/431,480
CURRENT FILING DATE: 1999-11-01
EARLIER APPLICATION NUMBER: 60/109,217
EARLIER FILING DATE: 1998-11-20
EARLIER APPLICATION NUMBER: 60/156,382
EARLIER FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 4
LENGTH: 142
TYPE: PRT
ORGANISM: Homo sapiens
US-09-431-480-4

Query Match 40.6%; Score 117; DB 3; Length 142;
Best Local Similarity 48.1%; Pred. No. 3.3e-09;
Matches 25; Conservative 11; Mismatches 14; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEVHLNVEQMWTTCOK--ETTCVPOER 50
DB 58 KESBDKYFLVVDKILHAKLQITDMEYQIDQISRSNCKPLNNTENCIPQCK 109

RESULT 4
US-09-617-302-4
Sequence 4, Application US/09617302
Patent No. 6245529
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72 C1
CURRENT APPLICATION NUMBER: US/09/617,302
CURRENT FILING DATE: 2000-07-17
PRIOR APPLICATION NUMBER: 09/431,480
PRIOR FILING DATE: 1999-11-01
PRIOR APPLICATION NUMBER: 60/109,217
PRIOR FILING DATE: 1998-11-20
PRIOR APPLICATION NUMBER: 60/156,382
PRIOR FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 4
LENGTH: 142
TYPE: PRT
ORGANISM: Homo sapiens
US-09-617-302-4

Query Match 40.6%; Score 117; DB 3; Length 142;
Best Local Similarity 48.1%; Pred. No. 3.3e-09;
Matches 25; Conservative 11; Mismatches 14; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEVHLNVEQMWTTCOK--ETTCVPOER 50
DB 58 KESBDKYFLVVDKILHAKLQITDMEYQIDQISRSNCKPLNNTENCIPQCK 109

RESULT 5
US-09-431-480-2
Sequence 2, Application US/09431480
Patent No. 6235708
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72
CURRENT APPLICATION NUMBER: US/09/431,480
CURRENT FILING DATE: 1999-11-01
EARLIER APPLICATION NUMBER: 60/109,217
EARLIER FILING DATE: 1998-11-20
EARLIER APPLICATION NUMBER: 60/156,382
EARLIER FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 2
LENGTH: 141
TYPE: PRT
ORGANISM: Homo sapiens
US-09-431-480-2

Query Match 39.6%; Score 114; DB 3; Length 141;
Best Local Similarity 44.2%; Pred. No. 8.8e-09;
Matches 23; Conservative 11; Mismatches 16; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEVHLNVEQMWTTCOK--ETTCVPOER 50
DB 57 KASNDLYNFRVVDILKSQEQITDSLEYEVLNIAFTWCKKIADNENCLPQ 108

RESULT 6
US-09-617-302-2
Sequence 2, Application US/09617302
Patent No. 6245529
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72 C1
CURRENT APPLICATION NUMBER: US/09/617,302
CURRENT FILING DATE: 2000-07-17
PRIOR APPLICATION NUMBER: 09/431,480
PRIOR FILING DATE: 1999-11-01
PRIOR APPLICATION NUMBER: 60/109,217
PRIOR FILING DATE: 1998-11-20
PRIOR APPLICATION NUMBER: 60/156,382
PRIOR FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 2
LENGTH: 141
TYPE: PRT
ORGANISM: Homo sapiens
US-09-617-302-2

Query Match 39.6%; Score 114; DB 3; Length 141;
Best Local Similarity 44.2%; Pred. No. 8.8e-09;
Matches 23; Conservative 11; Mismatches 16; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEVHLNVEQMWTTCOK--ETTCVPOER 50
DB 57 KASNDLYNFRVVDILKSQEQITDSLEYEVLNIAFTWCKKIADNENCLPQ 108

SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 2
LENGTH: 120
TYPE: PRT
ORGANISM: Homo sapiens
US-09-775-932-2

Query Match 33.3%; Score 96; DB 4; Length 120;
Best Local Similarity 39.6%; Pred. No. 2.8e-06;
Matches 19; Conservative 10; Mismatches 17; Indels 2; Gaps 1;

QY 1 KESDDKTHFRIFRLVKQROVTDHLEHNLNVMQWTTQCK--PETTNC 46
36 KASNDWYHSRALQVVRARKQIVAGVNYFLDVELGRTTCTKQPNLDNC 83

RESULT 11
5432264-4
Patent No. 5432264
APPLICANT: GRUBB, ANDERS; LUNDWALL, AKE; ABRAHAMSON, MAGNUS;
DALBOGE, HENRIK
TITLE OF INVENTION: RECOMBINANT 3-DHS-OH-CYSTATIN C PRODUCED
BY EXPRESSION IN A PROCARYOTIC HOST CELL
NUMBER OF SEQUENCES: 8
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/929,290
FILING DATE: 13-AUG-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,221
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 297,198
FILING DATE: 20-MAY-1988
SEQ ID NO: 4
LENGTH: 120

Query Match 33.3%; Score 96; DB 6; Length 120;
Best Local Similarity 39.6%; Pred. No. 2.8e-06;
Matches 19; Conservative 10; Mismatches 17; Indels 2; Gaps 1;

QY 1 KESDDKTHFRIFRLVKQROVTDHLEHNLNVMQWTTQCK--PETTNC 46
36 KASNDWYHSRALQVVRARKQIVAGVNYFLDVELGRTTCTKQPNLDNC 83

RESULT 12
US-08-832-535-11
Sequence 11, Application US/08832535
Patent No. 5919658
GENERAL INFORMATION:
APPLICANT: NI, JIAN
APPLICANT: LI, HAODONG
APPLICANT: YU, GUO-LIANG
APPLICANT: GENTZ, REINER L
TITLE OF INVENTION: HUMAN CYSTATIN F
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: HUMAN GENOME SCIENCES, INC.
STREET: 9410 KEY WEST AVENUE
CITY: ROCKVILLE
STATE: MD
COUNTRY: US
ZIP: 20850
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/832,535
FILING DATE: 03-APR-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:

NAME: KIMBALL, PAUL C.
REGISTRATION NUMBER: 34,610
REFERENCE/DOCKET NUMBER: PF265
TELECOMMUNICATION INFORMATION:
TELEPHONE: (201) 994-1700
TELEFAX: (201) 994-1744
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-832-535-11

Query Match 33.3%; Score 96; DB 2; Length 145;
Best Local Similarity 39.6%; Pred. No. 3.6e-06;
Matches 19; Conservative 10; Mismatches 17; Indels 2; Gaps 1;

QY 1 KESDDKTHFRIFRLVKQROVTDHLEHNLNVMQWTTQCK--PETTNC 46
62 KASNDWYHSRALQVVRARKQIVAGVNYFLDVELGRTTCTKQPNLDNC 109

RESULT 13
US-08-791-522-3
Sequence 3, Application US/08791522
Patent No. 5935817
GENERAL INFORMATION:
APPLICANT: Bandman, Olga
APPLICANT: GOLL, SURYA K.
TITLE OF INVENTION: NOVEL HUMAN CYSTATIN-LIKE
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
CITY: Palo Alto
STATE: CA
COUNTRY: USA
ZIP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSeq for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/791,522
FILING DATE: Filed Herewith
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Billings, Lucy J.
REGISTRATION NUMBER: 36,749
REFERENCE/DOCKET NUMBER: PF-0193 US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
TELEFAX: 415-845-4166
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
IMMEDIATE SOURCE:
LIBRARY: GenBank
CLONE: 181387
US-08-791-522-3

Query Match 33.3%; Score 96; DB 2; Length 146;
Best Local Similarity 39.6%; Pred. No. 3.6e-06;

Matches 19; Conservative 10; Mismatches 17; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEHLNVEMQWTCOK--PETTNC 46
DB 62 KASNDMTHSRALQVVRARKQIVAGVNYFLDVELGRITTCITKQFPLDNC 109

RESULT 14
US-08-744-138-3
Sequence 3, Application US/08744138
Patent No. 601012
GENERAL INFORMATION:
APPLICANT: Gentz, Reiner L.
APPLICANT: Ni, Jian
APPLICANT: Rosen, Craig A.
APPLICANT: Yu, Guo-Liang
TITLE OF INVENTION: Human Cystatin E
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Human Genome Sciences, Inc.
STREET: 9410 Key West Avenue
CITY: Rockville
STATE: Maryland
COUNTRY: USA
ZIP: 20850
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/744,138
FILING DATE:
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PP202P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 301 309 8504
TELEFAX: 301 309 8512
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ORIGINAL SOURCE:
INDIVIDUAL ISOLATE: Cystatin C
US-08-744-138-3

Query Match 33.3%; Score 96; DB 3; Length 146;
Best Local Similarity 39.6%; Pred. No. 3.6e-06;
Matches 19; Conservative 10; Mismatches 17; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEHLNVEMQWTCOK--PETTNC 46
DB 62 KASNDMTHSRALQVVRARKQIVAGVNYFLDVELGRITTCITKQFPLDNC 109

RESULT 15
US-09-019-485-4
Sequence 4, Application US/09019485
Patent No. 606617
GENERAL INFORMATION:
APPLICANT: Li, Haodong
APPLICANT: Yu, Guo-Liang
APPLICANT: Gentz, Reiner
APPLICANT: Ni, Jian
TITLE OF INVENTION: Cystatin F
NUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:
ADDRESSEE: Human Genome Sciences, Inc.
STREET: 9410 Key West Avenue
CITY: Rockville
STATE: MD
COUNTRY: USA
ZIP: 20850
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/019,485
FILING DATE:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Benson, Robert H.
REGISTRATION NUMBER: 30,446
REFERENCE/DOCKET NUMBER: PP265P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 3013098504
TELEFAX: 3013098439
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
US-09-019-485-4

Query Match 33.3%; Score 96; DB 3; Length 146;
Best Local Similarity 39.6%; Pred. No. 3.6e-06;
Matches 19; Conservative 10; Mismatches 17; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFRVLKQROVTDHLEHLNVEMQWTCOK--PETTNC 46
DB 62 KASNDMTHSRALQVVRARKQIVAGVNYFLDVELGRITTCITKQFPLDNC 109

Search completed: March 23, 2004, 17:15:30
Job time: 12.5314 secs

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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:10:34 ; Search time 28.0669 Seconds
(Without alignments)
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Title: US-09-941-314-14

Perfect score: 288

Sequence: 1 KESDDKXHFRIPLVAVKQRO.....MOWTQCKPPTNCVPOERE 52

Scoring table: BLOSUM62

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Searched: 1049977 seqs, 258955339 residues

Total number of hits satisfying chosen parameters: 1049977

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database : Listing first 45 summaries

Published Applications AA:*

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15: /cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*

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18: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	288	100.0	52	9	US-09-941-314-14 Sequence 14, Appl
2	288	100.0	80	9	US-09-941-314-15 Sequence 3, Appl
3	288	100.0	115	9	US-09-941-314-3 Sequence 15, Appl
4	288	100.0	117	9	US-09-941-314-4 Sequence 4, Appl
5	288	100.0	137	9	US-09-941-314-2 Sequence 2, Appl
6	248	86.1	46	9	US-09-941-314-10 Sequence 10, Appl
7	248	86.1	49	9	US-09-941-314-13 Sequence 13, Appl
8	194	67.4	59	9	US-09-941-314-16 Sequence 16, Appl
9	189	65.6	33	9	US-09-941-314-12 Sequence 12, Appl
10	138	47.9	24	9	US-09-941-314-11 Sequence 11, Appl
11	133	46.2	48	9	US-09-941-314-17 Sequence 17, Appl
12	119	41.3	27	9	US-09-941-314-9 Sequence 9, Appl
13	119	41.3	35	9	US-09-941-314-8 Sequence 8, Appl
14	106	36.8	127	8	US-08-849-303-19 Sequence 19, Appl
15	104	36.1	50	9	US-09-864-761-34822 Sequence 34822, A

16	104	36.1	50	9	US-09-864-761-48936	Sequence 48936, A
17	103	35.8	145	9	US-09-740-638-2	Sequence 2, Appl
18	103	35.8	145	13	US-10-006-467-2	Sequence 2, Appl
19	103	35.8	145	14	US-10-235-148-2	Sequence 2, Appl
20	97	33.7	140	14	US-10-376-564-46	Sequence 46, Appl
21	97	33.7	140	14	US-10-376-564-48	Sequence 48, Appl
22	97	33.7	145	14	US-10-168-425-14	Sequence 14, Appl
23	96	33.3	120	9	US-09-775-932-2	Sequence 2, Appl
24	96	33.3	146	8	US-08-849-303-17	Sequence 17, Appl
25	96	33.3	146	9	US-09-940-497-3	Sequence 3, Appl
26	96	33.3	146	9	US-09-969-834-3	Sequence 3, Appl
27	96	33.3	146	14	US-10-329-428-3	Sequence 3, Appl
28	96	33.3	146	14	US-10-376-564-47	Sequence 47, Appl
29	95	33.0	181	15	US-10-264-049-2608	Sequence 2608, Ap
30	93	32.3	140	8	US-08-849-303-18	Sequence 18, Appl
31	92	31.9	112	8	US-08-849-303-16	Sequence 16, Appl
32	92	31.9	118	9	US-09-775-932-24	Sequence 24, Appl
33	88	30.6	116	9	US-09-775-932-16	Sequence 16, Appl
34	88	30.6	139	8	US-08-849-303-15	Sequence 15, Appl
35	88	30.6	139	9	US-09-969-834-4	Sequence 4, Appl
36	83.5	29.0	111	8	US-08-849-303-26	Sequence 26, Appl
37	83	28.8	165	9	US-09-740-638-5	Sequence 5, Appl
38	83	28.8	165	13	US-10-006-467-5	Sequence 5, Appl
39	83	28.8	165	14	US-10-235-148-5	Sequence 5, Appl
40	82	28.5	121	9	US-09-775-932-8	Sequence 8, Appl
41	82	28.5	141	8	US-08-849-303-24	Sequence 24, Appl
42	82	28.5	141	9	US-09-940-497-6	Sequence 6, Appl
43	76.5	26.6	152	8	US-08-849-303-25	Sequence 25, Appl
44	75	26.0	121	9	US-09-775-932-14	Sequence 14, Appl
45	75	26.0	122	9	US-09-775-932-10	Sequence 10, Appl

ALIGNMENTS

RESULT 1

US-09-941-314-14

Sequence 14, Application US/09941314

Patent No. US20020142396A1

GENERAL INFORMATION:

APPLICANT: ZymoGenetics, Inc.

TITLE OF INVENTION: Mammalian Cystatin-B and Its Use to

TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein

FILE REFERENCE: 00-81PC

CURRENT APPLICATION NUMBER: US/09/941,314

CURRENT FILING DATE: 2001-08-29

PRIOR APPLICATION NUMBER: 60/230,230

PRIOR FILING DATE: 2001-09-01

NUMBER OF SEQ ID NOS: 19

SOFTWARE: FASTSEQ for Windows Version 4.0

SEQ ID NO 14

LENGTH: 52

TYPE: PRT

ORGANISM: Homo sapiens

US-09-941-314-14

Query Match 100.0%; Score 288; DB 9; Length 52;

Best Local Similarity 100.0%; Pred. No. 1.7e-30;

Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

DB 1 KESDDKXHFRIPLVAVKQROVTHLEHLNVEOMTQCKPPTNCVPOERE 52

1 KESDDKXHFRIPLVAVKQROVTHLEHLNVEOMTQCKPPTNCVPOERE 52

RESULT 2

US-09-941-314-15

Sequence 15, Application US/09941314

Patent No. US20020142396A1

GENERAL INFORMATION:

APPLICANT: ZymoGenetics, Inc.

TITLE OF INVENTION: Mammalian Cystatin-B and Its Use to

TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein

FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 15
LENGTH: 80
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-15

Query Match 100.0%; Score 288; DB 9; Length 80;
Best Local Similarity 100.0%; Pred. No. 2,8e-30;
Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 4 KESDDKXHFRIFRVLKVRQVTDHLEVHLNVEMQWTTCCQRPETTNCVPORE 55

RESULT 3
US-09-941-314-3
Sequence 3, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:

APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 3
LENGTH: 115
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-3

Query Match 100.0%; Score 288; DB 9; Length 115;
Best Local Similarity 100.0%; Pred. No. 4,3e-30;
Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFRVLKVRQVTDHLEVHLNVEMQWTTCCQRPETTNCVPORE 52
DB 34 KESDDKXHFRIFRVLKVRQVTDHLEVHLNVEMQWTTCCQRPETTNCVPORE 85

RESULT 4
US-09-941-314-4
Sequence 4, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:

APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 4
LENGTH: 117
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-4

Query Match 100.0%; Score 288; DB 9; Length 117;
Best Local Similarity 100.0%; Pred. No. 4,4e-30;
Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFRVLKVRQVTDHLEVHLNVEMQWTTCCQRPETTNCVPORE 52
DB 36 KESDDKXHFRIFRVLKVRQVTDHLEVHLNVEMQWTTCCQRPETTNCVPORE 87

RESULT 5
US-09-941-314-2
Sequence 2, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:

APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 137
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-2

Query Match 100.0%; Score 288; DB 9; Length 137;
Best Local Similarity 100.0%; Pred. No. 5,3e-30;
Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFRVLKVRQVTDHLEVHLNVEMQWTTCCQRPETTNCVPORE 52
DB 56 KESDDKXHFRIFRVLKVRQVTDHLEVHLNVEMQWTTCCQRPETTNCVPORE 107

RESULT 6
US-09-941-314-10
Sequence 10, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:

APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 10
LENGTH: 46
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-10

Query Match 86.1%; Score 248; DB 9; Length 46;
Best Local Similarity 100.0%; Pred. No. 2,8e-25;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 2 KESDDKXHFRIFRVLKVRQVTDHLEVHLNVEMQWTTCCQRPETTNCVPORE 46

RESULT 7
US-09-941-314-13
Sequence 13, Application US/09941314
Patent No. US20020142396A1

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/ GENERAL INFORMATION:
/ APPLICANT: Zymogenetics, Inc.
/ TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
/ TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
/ FILE REFERENCE: 00-81PC
/ CURRENT APPLICATION NUMBER: US/09/941,314
/ CURRENT FILING DATE: 2001-08-29
/ PRIOR APPLICATION NUMBER: 60/230,230
/ PRIOR FILING DATE: 2001-09-01
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 13
/ LENGTH: 49
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-941-314-13

Query Match      86.1%; Score 248; DB 9; Length 49;
Best Local Similarity 100.0%; Pred. No. 3e-25;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db      5 KESDDKTHFRIPRLVKVQRQVTDHLEHYHLNVEMQWTTCKPRTTN 49

RESULT 8
US-09-941-314-16
/ Sequence 16, Application US/09941314
/ Patent No. US20020142396A1
/ GENERAL INFORMATION:
/ APPLICANT: Zymogenetics, Inc.
/ TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
/ TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
/ FILE REFERENCE: 00-81PC
/ CURRENT APPLICATION NUMBER: US/09/941,314
/ CURRENT FILING DATE: 2001-08-29
/ PRIOR APPLICATION NUMBER: 60/230,230
/ PRIOR FILING DATE: 2001-09-01
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 16
/ LENGTH: 59
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-941-314-16

Query Match      67.4%; Score 194; DB 9; Length 59;
Best Local Similarity 100.0%; Pred. No. 4.8e-18;
Matches 34; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      19 RQVTDHLEHYHLNVEMQWTTCKPRTTN 52
Db      1 RQVTDHLEHYHLNVEMQWTTCKPRTTN 34

RESULT 9
US-09-941-314-12
/ Sequence 12, Application US/09941314
/ Patent No. US20020142396A1
/ GENERAL INFORMATION:
/ APPLICANT: Zymogenetics, Inc.
/ TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
/ TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
/ FILE REFERENCE: 00-81PC
/ CURRENT APPLICATION NUMBER: US/09/941,314
/ CURRENT FILING DATE: 2001-08-29
/ PRIOR APPLICATION NUMBER: 60/230,230
/ PRIOR FILING DATE: 2001-09-01
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 12
/ LENGTH: 33
```

```
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-941-314-12

Query Match      65.6%; Score 189; DB 9; Length 33;
Best Local Similarity 100.0%; Pred. No. 1.1e-17;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      20 QVTDHLEHYHLNVEMQWTTCKPRTTN 52
Db      1 QVTDHLEHYHLNVEMQWTTCKPRTTN 33

RESULT 10
US-09-941-314-11
/ Sequence 11, Application US/09941314
/ Patent No. US20020142396A1
/ GENERAL INFORMATION:
/ APPLICANT: Zymogenetics, Inc.
/ TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
/ TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
/ FILE REFERENCE: 00-81PC
/ CURRENT APPLICATION NUMBER: US/09/941,314
/ CURRENT FILING DATE: 2001-08-29
/ PRIOR APPLICATION NUMBER: 60/230,230
/ PRIOR FILING DATE: 2001-09-01
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 11
/ LENGTH: 24
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-941-314-11

Query Match      47.9%; Score 138; DB 9; Length 24;
Best Local Similarity 100.0%; Pred. No. 4.1e-11;
Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      19 RQVTDHLEHYHLNVEMQWTTCKPRT 42
Db      1 RQVTDHLEHYHLNVEMQWTTCKPRT 24

RESULT 11
US-09-941-314-17
/ Sequence 17, Application US/09941314
/ Patent No. US20020142396A1
/ GENERAL INFORMATION:
/ APPLICANT: Zymogenetics, Inc.
/ TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
/ TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
/ FILE REFERENCE: 00-81PC
/ CURRENT APPLICATION NUMBER: US/09/941,314
/ CURRENT FILING DATE: 2001-08-29
/ PRIOR APPLICATION NUMBER: 60/230,230
/ PRIOR FILING DATE: 2001-09-01
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 17
/ LENGTH: 48
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-941-314-17

Query Match      46.2%; Score 133; DB 9; Length 48;
Best Local Similarity 100.0%; Pred. No. 4.1e-10;
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      30 NVEMQWTTCKPRTTN 52
Db      1 NVEMQWTTCKPRTTN 23
```

RESULT 12
US-09-941-314-9
; Sequence 9, Application US/09941314
; Patent No. US20020142396A1
; GENERAL INFORMATION:
; APPLICANT: ZymoGenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; PRIOR FILING DATE: 2001-08-29, 230
; PRIOR APPLICATION NUMBER: 60/230,230
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 9
; LENGTH: 27
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-9

Query Match 41.3%; Score 119; DB 9; Length 27;
Best Local Similarity 100.0%; Pred. No. 1.5e-08;
Matches 23; Conservative 0; Mismatches 0; Gaps 0;

QY 1 KESDDKXHFRIFRVLKQVQVTD 23
Db 5 KESDDKXHFRIFRVLKQVQVTD 27

RESULT 13
US-09-941-314-8
; Sequence 8, Application US/09941314
; Patent No. US20020142396A1
; GENERAL INFORMATION:
; APPLICANT: ZymoGenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; PRIOR FILING DATE: 2001-08-29
; PRIOR APPLICATION NUMBER: 60/230,230
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 8
; LENGTH: 35
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-8

Query Match 41.3%; Score 119; DB 9; Length 35;
Best Local Similarity 100.0%; Pred. No. 2e-08;
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFRVLKQVQVTD 23
Db 13 KESDDKXHFRIFRVLKQVQVTD 35

RESULT 14
US-08-849-303-19
; Sequence 19, Application US/08849303
; Publication No. US20030221209A1
; GENERAL INFORMATION:
; APPLICANT: Atkinson, Howard J.
; APPLICANT: McPherson, Michael J.
; APPLICANT: Uwin, Peter E.
; TITLE OF INVENTION: MODIFIED PROTEINASE INHIBITORS
; NUMBER OF SEQUENCES: 79
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Klauder & Jackson
; STREET: 411 Hackensack Avenue, 4th floor

CITY: Hackensack
STATE: New Jersey
COUNTRY: USA
ZIP: 07601
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/849,303
FILING DATE: 21-MAY-1997
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Jackson Esq., David A.
REGISTRATION NUMBER: 26,742
REFERENCE/DOCKET NUMBER: 1321-1-003
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-487-5800
TELEFAX: 201-343-1684
TELEX: 133521
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 127 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
; HYPOTHETICAL: NO
US-08-849-303-19

Query Match 36.8%; Score 106; DB 8; Length 127;
Best Local Similarity 43.8%; Pred. No. 4.5e-06;
Matches 21; Conservative 11; Mismatches 14; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFRVLKQVQVTDLEHNLVNEQWTTQCPET--TNC 46
Db 43 KGSNDAYHSRAIQVVARKQLVAGINYLVEHGRTTCTSGQNTLNC 90

RESULT 15
US-09-864-761-34822
; Sequence 34822, Application US/09864761
; Patent No. US20020048763A1
; GENERAL INFORMATION:
; APPLICANT: Penn, Sharon G.
; APPLICANT: Hanzel, David K.
; APPLICANT: Chen, Wenhang
; TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR
; FILE REFERENCE: Aeomica-X-1
; CURRENT APPLICATION NUMBER: US/09/864,761
; PRIOR FILING DATE: 2001-05-23
; PRIOR APPLICATION NUMBER: US 60/180,312
; PRIOR FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: US 60/207,456
; PRIOR FILING DATE: 2000-05-26
; PRIOR APPLICATION NUMBER: US 09/632,366
; PRIOR FILING DATE: 2000-08-03
; PRIOR APPLICATION NUMBER: GB 24263.6
; PRIOR FILING DATE: 2000-10-04
; PRIOR APPLICATION NUMBER: US 60/236,359
; PRIOR FILING DATE: 2000-09-27
; PRIOR APPLICATION NUMBER: PCT/US01/00666
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00667
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00664
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00669
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00665

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; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00668
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00663
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00662
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00661
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00670
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: US 60/234,687
; PRIOR FILING DATE: 2000-09-21
; PRIOR APPLICATION NUMBER: US 09/608,408
; PRIOR FILING DATE: 2000-06-30
; PRIOR APPLICATION NUMBER: US 09/774,203
; PRIOR FILING DATE: 2001-01-29
; NUMBER OF SEQ ID NOS: 49117
; SOFTWARE: Anomax Sequence Listing Engine vers. 1.1
; SEQ ID NO 14822
; LENGTH: 50
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: MAP TO AL109954.10
; OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 1.5
; OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 1.5
; OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 1.8
; OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 1.7
; OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 1.6
; OTHER INFORMATION: EXPRESSED IN PETAL LIVER, SIGNAL = 1.3
; OTHER INFORMATION: EXPRESSED IN BT474, SIGNAL = 1.1
; OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 1.5
; OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 1.3
; OTHER INFORMATION: EST HUMAN HIT: A1200857.1, EVALUE 5.00e-23
; OTHER INFORMATION: SWISSPROT HIT: O60676, EVALUE 1.00e-01
US-09-864-761-34822

Query Match      36.1%; Score 104; DB 9; Length 50;
Best Local Similarity 100.0%; Pred. No. 2.8e-06;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 KESDDKXFRIFRVLKVRQ 20
        |||||
Db      31 KESDDKXFRIFRVLKVRQ 50
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Search completed: March 23, 2004, 17:17:52
Job time : 29.0669 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:06:09 ; Search time 9.57322 Seconds
(without alignments)
522.495 Million cell updates/sec

Title: US-09-941-314-14

Perfect score: 288
Sequence: 1 KESDDKXHFRIPLVKVQRO.....MOWTQCKPRTNCVPOERE 52

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

1: PIR 78: *
2: PIR1: *
3: PIR3: *
4: PIR4: *

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	131	45.5	139	2	A45361
2	106	36.8	120	2	S10587
3	106	36.8	127	2	S07085
4	96	33.3	146	1	UDHU
5	93	32.3	140	2	A36163
6	92	31.9	112	1	UDBO
7	88	30.6	139	1	UDCH
8	83.5	29.0	111	2	A28793
9	82	28.5	141	2	B29632
10	76.5	26.6	162	2	A43428
11	75	26.0	133	2	JC4536
12	75	26.0	142	2	A47142
13	71	24.7	141	1	UDH02
14	69	24.0	141	1	UDH01
15	69	24.0	179	2	J23130
16	65	22.6	111	1	JC2040
17	65	22.6	132	2	JC4918
18	65	22.6	132	2	J31871
19	64	22.2	915	1	RDBRHH
20	63	21.9	438	2	A47702
21	63	21.9	438	2	T52149
22	60	20.8	257	2	T03724
23	59.5	20.7	325	2	F69784
24	59.5	20.7	723	2	A36481
25	59	20.5	139	2	B64005
26	59	20.5	141	2	U01470
27	58.5	20.3	246	2	H90539
28	58.5	20.3	4540	2	T30838
29	58	20.1	436	1	KGBOL1

30	58	20.1	448	2	JN0118	glucan 1,3-beta-gl
31	58	20.1	621	1	KGBOL1	kininogen, HMW I p
32	57.5	20.0	1585	2	T19121	probable protein-t
33	57	19.8	434	1	KGBOL2	kininogen, HMW II
34	57	19.8	617	2	S19254	nitrate reductase
35	57	19.8	619	1	KGBOL2	kininogen, HMW II
36	56	19.4	588	2	C95252	L-fucose isomerase
37	56	19.4	588	2	A99717	L-fucose isomerase
38	56	19.4	904	1	RDNTT	nitrate reductase
39	56	19.4	904	1	RDNTS	nitrate reductase
40	55.5	19.3	164	2	T31026	hypothetical prote
41	55.5	19.3	602	2	S69198	prostaglandin G/H
42	55.5	19.3	602	2	S39782	cyclooxygenase 1 -
43	55.5	19.3	602	2	A35564	prostaglandin-endo
44	55	19.1	288	2	T04401	endonuclease (EC 3
45	55	19.1	427	1	KGHUL1	kininogen, LMW pre

ALIGNMENTS

RESULT 1

A45361
cystatin-related epididymal specific protein - mouse (fragment)

C:Species: Mus musculus (house mouse)

C>Date: 10-Jun-1993 #sequence_revision 18-Nov-1994 #text_change 05-Nov-1999

C:Accession: A45361

R:Corwall, G.A.; Orgebin-Crist, M.C.; Hann, S.R.

Mol. Endocrinol. 6, 1653-1664, 1992

A>Title: The CRIS gene: a unique testis-regulated gene related to the cystatin family is

A:Reference number: A45361; MUID:93078799; PMID:1280328

A:Accession: A45361

A>Status: preliminary; not compared with conceptual translation

A:Molecule type: nucleic acid

A:Residues: 1-139 <COR>

A:Cross-references: GB:549926; NID:9260492; PIDN:AA035390.1; PID:9260493

A>Note: sequence extracted from NCBI backbone (NCBIP:118813)

C:Superfamily: cystatin; cystatin homology

F:28-139/Domain: cystatin homology <CTS>

Query Match 45.5%; Score 131; DB 2; Length 139;
Best Local Similarity 41.5%; Pred. No. 2.6e-09;
Matches 22; Conservative 16; Mismatches 13; Indels 2; Gaps 1;

Qy 1 KESDDKXHFRIPLVKVQROVTHLEYNVEMQWTCQKP--ETNCVPOER 51
Db 55 KESDDKXHFRIPLVKVQROVTHLEYNVEMQWTCQKP--ETNCVPOER 107

RESULT 2

S10587
cystatin C - rat

C:Species: Rattus sp. (rat)

C>Date: 21-Nov-1993 #sequence_revision 03-Nov-1995 #text_change 16-Jul-1999

C:Accession: S10587

R:Bernard, F.; Bernard, A.; Paucher, D.; Capony, J.P.; Derancourt, J.; Billard, M.; Gauch

Biol. Chem. Hoppe-Seyler 371(Suppl.), 161-166, 1990

A>Title: Rat cystatin C: the complete amino acid sequence reveals a site for N-glycosylat

A:Reference number: S10587; MUID:90380276; PMID:2400577

A:Accession: S10587

A>Status: preliminary

A:Molecule type: protein

A:Residues: 1-120 <BSN>

A>Note: 43-Asn was also found

A>Note: the sequence from Fig. 2 is inconsistent with that from Fig. 1 in having 18-Ala

C:Superfamily: cystatin; cystatin homology

F:9-120/Domain: cystatin homology <CVS>

Query Match 36.8%; Score 106; DB 2; Length 120;
Best Local Similarity 43.8%; Pred. No. 3.2e-06;
Matches 21; Conservative 11; Mismatches 14; Indels 2; Gaps 1;

Qy 1 KESDDKXHFRIPLVKVQROVTHLEYNVEMQWTCQKPET--TNC 46

Db 36 KGSNDAYHSRAIQVRAKQKLVAGINYYLIDVEMGRITCTKSQTLTNC 83

RESULT 3

S07085

Cystatin C precursor - rat (fragment)

C/Species: Rattus norvegicus (Norway rat)

C/Date: 01-Dec-1993 #sequence revision 03-Aug-1995 #text_change 16-Jul-1999

C/Accession: S07085; S01337; S21109

R/Cole, T.; Dickson, P.W.; Esmard, F.; Averill, S.; Rødbroder, G.P.; Gauthier, F.; Sch

Eur. J. Biochem. 186, 35-42, 1989

A/Title: The cDNA structure and expression analysis of the genes for the cysteine protei

A/Reference number: S07085; MUID:90092122; PMID:2689174

A/Accession: S07085

A/Status: preliminary

A/Molecule type: mRNA

A/Residues: 1-127 <COL>

A/Cross-references: EMBL:X16957; NID:956041; PIDN:CAA34831.1; PID:9736290

R/Esmard, A.; Esmard, F.; Faucher, D.; Gauthier, F.

FEBS Lett. 236, 475-478, 1988

A/Title: Two rat homologues of human cystatin C

A/Reference number: S01337; MUID:88313020; PMID:3044831

A/Accession: S01337

A/Molecule type: protein

A/Residues: 8-49 <ESN>

R/Esmard, A.; Esmard, F.; Gullou, F.; Gauthier, F.

FEBS Lett. 300, 131-135, 1992

A/Title: Production of the cysteine proteinase inhibitor cystatin C by rat Sertoli cells

A/Reference number: S21109; MUID:92252121; PMID:1563513

A/Accession: S21109

A/Molecule type: protein

A/Residues: 8 'XX' 11-20 <ES2>

C/Superfamily: cystatin; cystatin homology

C/Keywords: cysteine proteinase inhibitor

F/16-127/Domain: cystatin homology <CTS>

F/80-90,104-124/Disulfide bonds: #status predicted

Query Match 36.8%; Score 106; DB 2; Length 127;

Best Local Similarity 43.8%; Pred. No. 3.4e-06;

Matches 21; Conservative 11; Mismatches 14; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFRVLKVGQVTDHLEHYLNVEMQMTCKPEK--TNC 46

Db 43 KGSNDAYHSRAIQVRAKQKLVAGINYYLIDVEMGRITCTKSQTLTNC 90

RESULT 4

UDHU

Cystatin C precursor [validated] - human

N/Alternate names: gamma-CSF; gamma-trace; neuroendocrine basic polypeptide; post-gamma

C/Species: Homo sapiens (man)

C/Date: 06-Jul-1982 #sequence_revision 31-Mar-1991 #text_change 08-Dec-2000

C/Accession: S10216; S00004; J00095; A33400; S02751; A01270; A25434; S12288; A32732; A60

R/Abrahamson, M.; Grubb, A.; Olafsson, I.; Palssdottrir, A.; Ulfvaback, M.; Lundwall, A.; Jensen, O.

Biochem. J. 268, 287-294, 1990

A/Title: Structure and expression of the human cystatin C gene.

A/Reference number: S10216; MUID:90303202; PMID:2363674

A/Accession: S10216

A/Molecule type: DNA

A/Residues: 1-146 <AB1>

A/Cross-references: EMBL:X52255; NID:930257; PIDN:CAA3497.1; PID:g296643

R/Abrahamson, M.; Grubb, A.; Olafsson, I.; Lundwall, A.

FEBS Lett. 216, 229-233, 1987

A/Title: Molecular cloning and sequence analysis of cDNA coding for the precursor of the

A/Reference number: S00004; MUID:87219149; PMID:3455457

A/Accession: S00004

A/Molecule type: mRNA

A/Residues: 1-146 <AB2>

A/Cross-references: EMBL:X05607; NID:930371; PIDN:CAA29096.1; PID:g755738

R/Levy, E.; Lopez-Otin, C.; Ghiso, J.; Gellner, D.; Frangione, B.

J. Exp. Med. 169, 1771-1778, 1989

A/Title: Stroke in Icelandic patients with hereditary amyloid angiopathy is related to a

A/Reference number: J00095; MUID:89235594; PMID:2541223

A/Accession: J00095

A/Molecule type: DNA

A/Residues: 1-146 <LEV>

A/Cross-references: GB:X61881; NID:930367; PIDN:CAA43856.2; PID:g4490944

A/Note: the cystatin C gene isolated from the brain of an Icelandic patient with heredita

e)

R/Satch, E.; Sabatini, L.M.; Eddy, R.L.; Shows, T.B.; Azen, E.A.; Isemura, S.; Sanada, Y

Biochem. Biophys. Res. Commun. 162, 1324-1331, 1989

A/Title: The human cystatin C gene (CST3) is a member of the cystatin gene family which

A/Reference number: A33400; MUID:89350949; PMID:2764935

A/Accession: A33400

A/Molecule type: DNA

A/Residues: 1-24, 'T', 26-146 <SA1>

A/Cross-references: GB:M27689; GB:M27890; GB:M27891; NID:g181385; PIDN:AAA52164.1; PID:g3

R/Ghiso, J.; Cowan, N.; Frangione, B.

Biochem. Biophys. Res. Commun. 162, 205-208, 1988

A/Title: Isolation of a sequence encoding human cystatin C. Conservation of exon-intron

A/Reference number: S02751; MUID:89076507; PMID:3264504

A/Accession: S02751

A/Molecule type: DNA

A/Residues: 82-119 <GH2>

A/Cross-references: EMBL:M27769

A/Note: the authors translated the codon ACC for residue 105 as Thr; the sequence shown i

R/Grubb, A.; Lofberg, H.

Proc. Natl. Acad. Sci. U.S.A. 79, 3024-3027, 1982

A/Title: Human gamma-trace, a basic microprotein: amino acid sequence and presence in the

A/Reference number: A01270; MUID:82222268; PMID:6283552

A/Accession: A01270

A/Molecule type: protein

A/Residues: 27-131, 'S', 133-146 <GRU>

R/Ghiso, J.; Jensen, O.; Frangione, B.

Proc. Natl. Acad. Sci. U.S.A. 83, 2974-2978, 1986

A/Title: Amyloid fibrils in hereditary cerebral hemorrhage with amyloidosis of Iceland ty

A/Reference number: A25434; MUID:86206076; PMID:3517880

A/Accession: A25434

A/Molecule type: protein

A/Residues: 37-93, 'Q', 95-146 <GH1>

R/Turk, V.; Brzin, J.; Longer, M.; Ritonja, A.; Eropkin, M.; Borchart, U.; Machleidt, W.

Hoppe-Seyler's Z. Physiol. Chem. 364, 1487-1496, 1983

A/Title: Protein inhibitors of cysteine proteinases. III. Amino-acid sequence of cystatir

A/Reference number: S01461; MUID:84110059; PMID:6662498

A/Accession: S12288

A/Molecule type: protein

A/Residues: 27-73 <TUR>

R/Brzin, J.; Popovic, T.; Turk, V.

Biochem. Biophys. Res. Commun. 118, 103-109, 1984

A/Title: Human cystatin, a new protein inhibitor of cysteine proteinases.

A/Reference number: A32732; MUID:8418015; PMID:6365094

A/Accession: A32732

A/Molecule type: protein

A/Residues: 27-76 <BRZ>

R/Olafsson, I.; Gudmundsson, G.; Abrahamson, M.; Jensen, O.; Grubb, A.

Scand. J. Clin. Lab. Invest. 50, 85-93, 1990

A/Title: The amino terminal portion of cerebrospinal fluid cystatin C in hereditary cyste

A/Reference number: A60552; MUID:90193615; PMID:2315647

A/Accession: A60552

A/Molecule type: protein

A/Residues: 27-49, 'XX', 52-64 <OLA>

A/Note: this protein, purified from cerebrospinal fluid of patients with the autosomal de

fective gene is not present in CSF but is found instead in amyloid deposits

R/Popovic, T.; Brzin, J.; Ritonja, A.; Turk, V.

Biochem. Biophys. Res. Commun. 162, 575-580, 1989

A/Title: Different forms of human cystatin C.

A/Reference number: S10607; MUID:91025625; PMID:2222856

A/Accession: S10607

A/Molecule type: protein

A/Residues: 27-53 <POP>

A/Note: truncated forms with amino ends at positions 35 and 36 of the precursor were also

R/Grubb, A.; Lofberg, H.; Barrett, A.C.

FEBS Lett. 170, 370-374, 1984

A/Title: The disulphide bridges of human cystatin C (gamma-trace) and chicken cystatin.

A:Reference number: S01462
 A:Contents: annotation; disulfide bonds
 R:Berli, P.J.; Storer, A.C.
 Biochem. J. 302, 411-416, 1994
 A:Title: Local pH-dependent conformational changes leading to proteolytic susceptibility
 A:Reference number: S55305; MUID:94379969; PMID:8092991
 A:Accession: S55305
 A:Status: preliminary
 A:Molecule type: protein
 A:Residues: 27-49;106-146 <BER>
 C:Comment: This protein is found in the post-gamma-globulin fraction of cerebrospinal fluid patients with certain autoimmune diseases.
 C:Comment: This protein is an inhibitor of cysteine proteinases and may serve an important function in the regulation of the immune response.
 C:Comment: A mutant cystatin C, with 94-Gln, is deposited in hereditary cerebral hemorrhage of Japanese type 1.
 C:Gene: GDB:CST3
 A:Cross-references: GDB:119817; OMIM:105150
 A:Map position: 20p11.2-20p11.2
 A:Introns: 81/3; 119/3
 C:Superfamily: cystatin; cystatin homology
 C:Keywords: amyloid; cysteine proteinase inhibitor; extracellular protein; hydroxyproline
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:27-146/Product: cystatin C #status experimental <MAT>
 F:35-146/Domain: cystatin homology <CYS>
 F:81-85/Region: inhibitory #status predicted
 F:29/Modified site: hydroxyproline (Pro) (partial) #status experimental
 F:99-109;123-143/Disulfide bonds: #status experimental

Query Match 33.3%; Score 96; DB 1; Length 146;
 Best Local Similarity 39.6%; Pred. No. 7.2e-05;
 Matches 19; Conservative 10; Mismatches 17; Indels 2; Gaps 1;

Db 1 KESDDKHFRIFFVLKQROVTDHLEHNLVEMQWTCQK-PETTC 46
 62 KASNDVHSPALQVVRARQIVAGVNYFLDVEIGRTTCCTGTPYLDC 109

RESULT 5
 A36163
 Cystatin C precursor - mouse
 C:Species: Mus musculus (house mouse)
 C:Date: 14-Dec-1990 #sequence_revision 14-Dec-1990 #text_change 16-Jul-1999
 C:Accession: A36163
 R:Solom, M.; Rawson, C.; Lindburg, K.; Barnes, D.
 Biochem. Biophys. Res. Commun. 172, 945-951, 1990
 A:Title: Transforming growth factor beta regulates cystatin C in serum-free mouse embryonic fibroblasts
 A:Reference number: A36163; MUID:91054522; PMID:2241983
 A:Accession: A36163
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-140 <SOL>
 A:Cross-references: EMBL:M59470; NID:G192911; PID:AAA63298.1; PID:G192912
 C:Superfamily: cystatin; cystatin homology
 F:29-140/Domain: cystatin homology <CYS>
 F:93-103;117-137/Disulfide bonds: #status predicted

Query Match 32.3%; Score 93; DB 2; Length 140;
 Best Local Similarity 39.6%; Pred. No. 0.00011;
 Matches 19; Conservative 11; Mismatches 16; Indels 2; Gaps 1;

Db 1 KESDDKHFRIFFVLKQROVTDHLEHNLVEMQWTCQK-PETTC 46
 56 KGSNDVHSPALQVVRARQIVAGVNYFLDVEIGRTTCCTGTPYLDC 103

RESULT 6
 UNDO
 Cystatin - bovine
 N:Alternate names: thiol proteinase inhibitor
 C:Species: Bos primigenius taurus (cattle)
 C:Date: 28-Feb-1986 #sequence_revision 28-Feb-1986 #text_change 06-Dec-1996
 C:Accession: A01271
 R:Harada, M.; Tsunawake, S.; Sakiyama, F.; Nimobe, M.; Fujii, S.

FEBS Lett. 186, 41-45, 1985
 A:Title: Complete amino acid sequence of bovine colostrum low-M-r cysteine proteinase inhibitor
 A:Reference number: A01271; MUID:85231205; PMID:3891407
 A:Accession: A01271
 A:Molecule type: protein
 A:Residues: 1-112 <HR>
 C:Superfamily: cystatin; cystatin homology
 C:Keywords: colostrum; cysteine proteinase inhibitor
 F:2-112/Domain: cystatin homology <CYS>
 F:48-52/Region: inhibitory #status predicted
 F:66-76;90-110/Disulfide bonds: #status predicted

Query Match 31.9%; Score 92; DB 1; Length 112;
 Best Local Similarity 40.5%; Pred. No. 0.00017;
 Matches 17; Conservative 10; Mismatches 15; Indels 0; Gaps 0;

Db 1 KESDDKHFRIFFVLKQROVTDHLEHNLVEMQWTCQK-PETTC 42
 29 KGSNDVHSPALQVVRARQIVAGVNYFLDVEIGRTTCCTGTPYLDC 103

RESULT 7
 UNDO
 Cystatin precursor - chicken
 N:Alternate names: cystatin I; cysteine proteinase inhibitor; egg-white cystatin
 C:Species: Gallus gallus (chicken)
 C:Date: 03-Aug-1984 #sequence_revision 12-Apr-1996 #text_change 29-Oct-1999
 C:Accession: A34456; A01274; S01461; S48159; S04008; JN0789
 R:Colletta, R.; Sakaguchi, Y.; Nagase, H.; Bird, J.W.C.
 J. Biol. Chem. 264, 17164-17169, 1989
 A:Title: Chicken egg white cystatin. Molecular cloning, nucleotide sequence, and tissue distribution
 A:Reference number: A34456; MUID:90008873; PMID:2793849
 A:Accession: A34456
 A:Molecule type: mRNA
 A:Residues: 1-139 <COL>
 A:Cross-references: GB:J05077; NID:G211714; PID:AAA6744.1; PID:G211715
 R:Schwabe, C.; Anastasi, A.; Crow, H.; McDonald, J.K.; Barrett, A.J.
 Biochem. J. 217, 813-817, 1984
 A:Title: Cystatin. Amino acid sequence and possible secondary structure.
 A:Reference number: A01274; MUID:84178305; PMID:6712597
 A:Accession: A01274
 A:Molecule type: protein
 A:Residues: 24-139 <SCH>
 R:Turk, V.; Brzin, J.; Longer, M.; Ritonja, A.; Eropkin, M.; Borchart, U.; Machleidt, W.
 Hoppe-Seyler's Z. Physiol. Chem. 364, 1487-1496, 1983
 A:Title: Protein inhibitors of cysteine proteinases. III. Amino acid sequence of cystatin
 A:Reference number: S01461; MUID:84110059; PMID:6662498
 A:Accession: S01461
 A:Molecule type: protein
 A:Residues: 24-139 <TUR>
 R:Anastasi, A.; Brown, M.A.; Kembhavi, A.A.; Nicklin, M.J.H.; Sayers, C.A.; Sunter, D.C.;
 Biochem. J. 211, 129-138, 1983
 A:Title: Cystatin, a protein inhibitor of cysteine proteinases. Improved purification from chicken egg white
 A:Reference number: A37514; MUID:83256421; PMID:6409085
 A:Contents: annotation; characterization of protein
 R:Grubb, A.; Lofberg, H.; Barrett, A.J.
 FEBS Lett. 170, 370-374, 1984
 A:Title: The disulfide bridges of human cystatin C (gamma-trace) and chicken cystatin.
 A:Reference number: S01462
 A:Accession: S01462
 A:Contents: annotation; disulfide bonds
 R:Anastasi, A.; Nagler, D.K.; Schulze, A.J.; Engh, R.A.; Genenger, G.; Machleidt, W.;
 Eur. J. Biochem. 224, 407-415, 1994
 A:Title: Production, inhibitory activity, folding and conformational analysis of an N-terminally truncated cystatin C
 A:Reference number: S48159; MUID:95010016; PMID:7925354
 A:Accession: S48159
 A:Status: preliminary
 A:Molecule type: protein
 A:Residues: 24-135 <AN>
 R:Labat, B.; Krieglstein, K.; Henschen, A.; Kos, J.; Turk, V.; Huber, R.; Bode, W.
 FEBS Lett. 248, 162-168, 1989
 A:Title: The cysteine proteinase inhibitor chicken cystatin is a phosphoprotein.
 A:Reference number: S04008; MUID:89252033; PMID:2721673
 A:Accession: S04008

A/Molecule type: protein
A/Residues: 97-114 <LAB>
R/Coliella, R.; Bird, J.W.C.
Gene 130, 175-181, 1993
A/Title: Isolation and characterization of the chicken cystatin-encoding gene: Mapping
A/Reference number: JN0789; MUID:93366172; PMID:8359684
A/Accession: JN0789
A/Molecule type: DNA
A/Residues: 1-119 <CO2>
A/Cross-references: GB:M95725
A/Note: authors failed to translate the codon for residue 115-Tyr
C/Comment: This protein binds tightly to and inhibits a variety of cysteine proteinases
C/Genetics:
A/Genes: Can
A/Introns: 76/3; 114/3
C/Superfamily: cystatin; cystatin homology
C/Keywords: cysteine proteinase inhibitor; egg white; phosphoprotein
F/1-23/Domain: signal sequence #status predicted <SIG>
F/24-139/Product: cystatin, long form #status experimental <CYLP>
F/30-139/Domain: cystatin homology <CYS>
F/32-139/Product: cystatin, short form #status experimental <CYSP>
F/76-80/Region: inhibitory #status predicted
F/94-104, 118-138/Diethylidide bonds: #status experimental
F/103/Binding site: phosphate (Ser) (covalent) (partial) #status experimental

Query Match 30.6%; Score 88; DB 1; Length 139;
Best Local Similarity 42.5%; Pred. No. 0.00071;
Matches 17; Conservative 9; Mismatches 14; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFFVLKQROVTDHLEYNLVEMQWTTCK 40
DB 57 RASNDKXSRVVRVISAQQLVSGIKYILQVEIGRTTCPK 96

RESULT 8
A28793
cystatin - puff adder
C/Species: Bltis arietans (puff adder)
C/Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 30-Sep-1993
C/Accession: A28793
R/Rittonja, A.; Evans, H.J.; Machleidt, W.; Barrett, A.J.
Biochem. J. 246, 799-802, 1987
A/Title: Amino acid sequence of a cystatin from venom of the African puff adder (Bltis a
A/Reference number: A28793; MUID:88076861; PMID:3500714
A/Accession: A28793
A/Molecule type: protein
A/Residues: 1-111 <RT>
C/Superfamily: cystatin; cystatin homology

Query Match 29.0%; Score 83.5; DB 2; Length 111;
Best Local Similarity 33.9%; Pred. No. 0.0021;
Matches 20; Conservative 13; Mismatches 17; Indels 9; Gaps 2;

QY 3 SDDKXHFRIFFVLKQROVTDHLEYNLVEMQWTTCK-----PETTNC-VPOGR 52
DB 30 SKNDYVKEKRRVVAQGVVGVVYLMMLKTKTKVGRKGYQEIQCNLPENQ 88

RESULT 9
B29632
cystatin SA precursor - human
C/Species: Homo sapiens (man)
C/Date: 31-Mar-1989 #sequence_revision 30-Jun-1989 #text_change 16-Jul-1999
C/Accession: B29632; S02490; A14422; B27015
R/Saitoh, E.; Kim, H.S.; Smithies, O.; Maeda, N.
Gene 61, 329-338, 1997
A/Title: Human cysteine-proteinase inhibitors: nucleotide sequence analysis of three mem
A/Reference number: A91589; MUID:8818836; PMID:3446578
A/Accession: B29632
A/Molecule type: DNA
A/Residues: 1-141 <SAI>
A/Cross-references: GB:M19673; GB:M19170; NID:g186403; PIDN:AAA6116.1; PID:g386826
A/Note: the authors translated the codon GAC for residue 129 as Asn

R/Saitoh, E.; Isemura, S.; Sanada, K.; Kim, H.S.; Smithies, O.; Maeda, N.
Biol. Chem. Hoppe-Seyler 369, 191-197, 1988
A/Title: Cystatin superfamily. Evidence that family II cystatin genes are evolutionarily
A/Reference number: S02489; MUID:89076505; PMID:3202964
A/Accession: S02490
A/Status: not compared with conceptual translation
A/Molecule type: DNA
A/Residues: 21-141 <SA2>
R/Isemura, S.; Saitoh, E.; Sanada, K.
J. Biochem. 102, 693-704, 1987
A/Title: Characterization and amino acid sequence of a new acidic cysteine proteinase int
A/Reference number: A41422; MUID:8819220; PMID:3436950
A/Accession: A41422
A/Molecule type: protein
A/Residues: 25-141 <ISB>
R/Isemura, S.; Saitoh, E.; Sanada, K.; Ito, S.
in Cysteine Proteinases and their inhibitors, Turk, V., ed., pp.497-505, Walter de Gruyter
A/Title: Cystatin S and the related cysteine proteinase inhibitors in human saliva.
A/Reference number: A27015
A/Accession: B27015
A/Molecule type: protein
A/Residues: 25-134, 'D', 136-141 <IS2>
C/Genetics:
A/Genes: GDB:CST2
A/Cross-references: GDB:119816; OMIM:123856
A/Map position: 20p11.2-20p11.2
C/Superfamily: cystatin; cystatin homology
F/30-141/Domain: cystatin homology <CYS>

Query Match 28.5%; Score 82; DB 2; Length 141;
Best Local Similarity 30.2%; Pred. No. 0.0041;
Matches 16; Conservative 13; Mismatches 22; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFFVLKQROVTDHLEYNLVEMQWTTCK--PETTNCVPOGR 51
DB 57 KATEDYRRLRLVLRARQIVGVNFFDIEVGRITCTKSQPNLDTCAFHQ 109

RESULT 10
A43428
onchocystatin - nematode (Onchocerca volvulus)
N/Alternate names: cysteine proteinase inhibitor; onchocerciasis antigen
C/Species: Onchocerca volvulus
C/Date: 04-Mar-1993 #sequence_revision 18-Nov-1994 #text_change 17-Mar-2000
R/Justigman, S.; Brotman, B.; Hulma, T.; Prince, A.M.; McKerrow, J.H.
J. Biol. Chem. 267, 17339-17346, 1992
A/Title: Molecular cloning and characterization of onchocystatin, a cysteine proteinase
A/Reference number: A43428; MUID:92381053; PMID:1512629
A/Accession: A43428
A/Status: preliminary
A/Molecule type: mRNA
A/Residues: 1-162 <LUS>
A/Cross-references: GB:M37105; NID:g159905; PID:g159906
A/Note: sequence extracted from NCBI backbone (NCBIN:111962, NCBI:P:111963)
R/ChandaShekar, R.; Masood, K.; Alvarez, R.M.; Ogunitade, A.F.; Lujan, R.; Richards Jr
J. Clin. Invest. 88, 1460-1466, 1991
A/Title: Molecular cloning and characterization of recombinant parasite antigens for imm
A/Reference number: A43927; MUID:92042729; PMID:1840605
A/Accession: B43927
A/Molecule type: mRNA
A/Residues: 'P', 37-57, 'A', 59-71, 'R', 73-83, 'N', 85-126, 'W', 128-162 <CHA>
A/Cross-references: GB:M60279; NID:g159988
A/Experimental source: clone OC 9.3
A/Note: sequence extracted from NCBI backbone (NCBIN:65111, NCBI:P:65113)
C/Superfamily: cystatin; cystatin homology
C/Keywords: cysteine proteinase inhibitor

Query Match 26.6%; Score 76.5; DB 2; Length 162;
Best Local Similarity 29.4%; Pred. No. 0.024;
Matches 15; Conservative 15; Mismatches 16; Indels 5; Gaps 1;

QY 1 KESDDKXHFRIFFVLKQROVTDHLEYNLVEMQWTTCK-----QKPEETNC 46

Best Local Similarity 32.1%; Pred. No. 0.1;
Matches 17; Conservative 9; Mismatches 25; Indels 2; Gaps 1;
QY 1 KESDDKXHFRIFFVLKYQGVTDHLEYNLVNEMQWTCCK--PETTNCVQER 51
Db 57 KATKDDYRRPLQVLRARQQTGVNFFDVEVGRITCTKSQPLDTCARHQ 109

RESULT 14

UDHNP1
Cystatin S precursor - human
N/Alternate names: cystatin SA-III; salivary acidic protein-1
C/Species: Homo sapiens (man)
C/Date: 25-Feb-1985 #sequence_revision 08-Feb-1996 #text_change 16-Jul-1999
C/Accession: S17667; S16500; A01272; A29603; S19280; A56608
R/Robert, L.A.; Aguirre, A.; Levine, M.J.
Biochem. J. 278, 627-635, 1991
A/Title: Human salivary cystatin S. Cloning, sequence analysis, hybridization in situ and
A/Reference number: S17667; MUID:91378918; PMID:1898352
A/Accession: S17667
A/Molecule type: mRNA
A/Residues: 1-141 <BOB>
A/Cross-references: EMBL:X54667; NID:930365; PIDN:CA38478.1; PID:930366
R/Lamkin, M.S.; Jensen, J.L.; Setayesh, M.R.; Troxler, R.F.; Oppenheim, F.G.
Arch. Biochem. Biophys. 288, 664-670, 1991
A/Title: Salivary cystatin SA-III, a potential precursor of the acquired enamel pellicle
A/Reference number: S16500; MUID:91378515; PMID:1898055
A/Accession: S16500
A/Status: preliminary
A/Molecule type: protein
A/Residues: 21-134, 'D', 136-141 <IHU>
R/Isemura, S.; Saitoh, E.; Sanada, K.
J. Biochem. 96, 489-498, 1984
A/Title: Isolation and amino acid sequence of SP-1, an acidic protein of human whole sal
A/Reference number: A91985; MUID:85054716; PMID:6501254
A/Accession: A01272
A/Molecule type: protein
A/Residues: 29-134, 'D', 136-141 <ISB>
R/Isemura, S.; Saitoh, E.; Ito, S.; Isemura, M.; Sanada, K.
J. Biochem. 96, 1311-1314, 1984
A/Title: Cystatin S, a cysteine proteinase inhibitor of human saliva.
A/Reference number: A91981; MUID:85104877; PMID:6394600
A/Contents: annotation; inhibitor specificity
R/Hawke, D.H.; Yuan, P.W.; Wilson, K.J.; Hunkapiller, M.W.
Biochem. Biophys. Res. Commun. 145, 1248-1253, 1987
A/Title: Identification of a long form of cystatin from human saliva by rapid microbore
A/Reference number: A29603; MUID:87270697; PMID:3496880
A/Accession: A29603
A/Molecule type: protein
A/Residues: 21-51 <HMW>
R/Ramaubun, N.; Reddy, M.S.; Bergey, E.J.; Haraszthy, G.G.; Soni, S.D.; Levine, M.J.
Biochem. J. 280, 341-352, 1991
A/Title: Large-scale purification and characterization of the major phosphoproteins and
A/Reference number: S19279; MUID:92082465; PMID:1747107
A/Accession: S19280
A/Status: preliminary
A/Molecule type: protein
A/Residues: 21-55 <RM>
R/Johnson, M.; Richardson, C.F.; Bergey, E.J.; Levine, M.J.; Nancollas, G.H.
Arch. Oral Biol. 36, 631-636, 1991
A/Title: The effects of human salivary cystatins and statherin on hydroxyapatite crystal
A/Reference number: A56608; MUID:92074898; PMID:1741693
A/Accession: A56608
A/Molecule type: protein
A/Residues: 21-36 <JOH>
A/Note: sequence extracted from NCBI backbone (NCBIP:67866)
A/Note: authors designate form without phosphate as cystatin S and form containing one ph
C/Comment: This protein strongly inhibits papain and ficin, partially inhibits stem brom
C/Genetics:
A/Gene: GDB:CST4
A/Cross-references: GDB:136381
A/Map position: 20p11.2-20p11.2

C/Superfamily: cystatin; cystatin homology
C/Keywords: cysteine proteinase inhibitor; phosphoprotein; saliva
F/1-20/Domains: signal sequence #status predicted <SIG>
F/21-141/Product: cystatin S #status predicted <MKT>
F/30-141/Domains: cystatin homology <CTS>
F/76-80/Region: inhibitory #status predicted
F/94-104, 118-138/Distalide bonds: #status predicted

Query Match 24.0%; Score 69; DB 1; Length 141;
Best Local Similarity 30.2%; Pred. No. 0.18;
Matches 16; Conservative 11; Mismatches 24; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIFFVLKYQGVTDHLEYNLVNEMQWTCCK--PETTNCVQER 51
Db 57 KATKDDYRRPLQVLRARQQTGVNFFDVEVGRITCTKSQPLDTCARHQ 109

RESULT 15

T23130
hypothetical protein T28B8.4 - Caenorhabditis elegans
C/Species: Caenorhabditis elegans
C/Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Sep-2000
C/Accession: T23130; T25403
R/White, S.
submitted to the EMBL Data Library, December 1997
A/Reference number: Z19690
A/Accession: T23130
A/Status: preliminary; translated from GB/EMBL/DDBJ
A/Molecule type: DNA
A/Residues: 1-1779 <MIL>
A/Cross-references: EMBL:AL021066; PIDN:CA15925.1; GSPDB:GN00019; CESP:T28B8.4
R/White, S.
submitted to the EMBL Data Library, October 1996
A/Reference number: Z20029
A/Accession: T25403
A/Status: preliminary; translated from GB/EMBL/DDBJ
A/Molecule type: DNA
A/Residues: 1-1779 <M12>
A/Cross-references: EMBL:281133; PIDN:CA03445.1; GSPDB:GN00019; CESP:T28B8.4
C/Genetics:
A/Map position: 1
A/Intons: 161/2; 223/2; 309/3; 332/2; 547/3; 603/1; 657/3; 745/2; 802/1; 856/1; 1031/1;
C/Superfamily: Caenorhabditis elegans hypothetical protein T28B8.3

Query Match 24.0%; Score 69; DB 2; Length 1779;
Best Local Similarity 35.9%; Pred. No. 2.8;
Matches 14; Conservative 8; Mismatches 7; Indels 10; Gaps 2;
QY 19 ROVTDHLEYNLVN-----VEMQWTCCKPETTNCVQ 49
Db 749 RRTTDHLDYIINLPILKHTNVQWIT--DPTPHCLPK 785

Search completed: March 23, 2004, 17:14:30
Job time: 16.5732 secs

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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:05:08 ; Search time 5.87448 Seconds
(without alignments)
460.917 Million cell updates/sec

Title: US-09-941-314-14

Perfect score: 288
Sequence: 1 KESDDKXHRIFRVLKVRQ.....MOWTCKPRTNCVQERE 52

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues
Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 10
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_42.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match Length	ID	Description
1	288	100.0	137 1 CS11_HUMAN	Q9H112 homo sapien
2	165	57.3	139 1 CS11_MOUSE	Q9D269 mus musculu
3	131	45.5	142 1 CST8_MOUSE	P32766 mus musculu
4	124	43.1	142 1 CST8_RAT	O88959 rattus norv
5	117	40.6	142 1 CST8_HUMAN	O60676 homo sapien
6	106	36.8	127 1 CYTC_RAT	P14841 rattus norv
7	99	34.4	146 1 CYTC_SAISC	O19083 salmifir sci
8	99	34.4	148 1 CYTC_RABIT	O97862 corycolagus
9	97	33.7	140 1 CYTC_MOUSE	P14460 mus musculu
10	96	33.3	146 1 CYTC_HUMAN	P01034 homo sapien
11	96	33.3	146 1 CYTC_MACMU	O19032 macaca mula
12	92	31.9	148 1 CYTC_BOVIN	P01035 bos taurus
13	88	30.6	139 1 CYT_CHICK	P01068 gallus gall
14	84	29.2	116 1 CYT_COTJA	P81061 coturnix co
15	83.5	29.0	111 1 CYT_BITAR	P08935 bitis ariet
16	83	28.8	165 1 CSTL_HUMAN	Q9H114 homo sapien
17	82	28.5	141 1 CYTT_HUMAN	P09228 homo sapien
18	76.5	26.6	162 1 CYTD_ONCVO	P22085 onchocerca
19	75	26.0	142 1 CYTD_HUMAN	P83255 homo sapien
20	75	26.0	149 1 CYTM_HUMAN	O51828 homo sapien
21	73	25.3	139 1 CYT_CYPCA	P35481 cyprinus ca
22	71	24.7	141 1 CYTN_HUMAN	P01037 homo sapien
23	69	24.0	141 1 CYTS_HUMAN	P01036 homo sapien
24	65	22.6	130 1 CYT_ONCKE	Q98967 oncochynchu
25	65	22.6	130 1 CYT_ONCMY	Q91155 oncochynchu
26	64	22.2	130 1 NIAT_HORVU	P27967 hordeum vul
27	63	21.9	145 1 CYTF_HUMAN	O76096 homo sapien
28	63	21.9	145 1 EXG_CANAL	P29717 candida alb
29	61	21.2	170 1 TIM4_RABIT	O97591 corycolagus
30	61	21.2	224 1 TIM4_HUMAN	Q99727 homo sapien
31	60	20.8	257 1 CG1C_ORYSA	P93411 oryza sativ
32	59.5	20.7	723 1 MY5B_MOUSE	P12271 mus musculu
33	59	20.5	141 1 CYTS_RAT	P19313 rattus norv

34	58.5	20.3	144 1	CYTF_MOUSE	O89098 mus musculu
35	58.5	20.3	4540 1	DYHC_PARTE	Q27171 paramecium
36	58	20.1	4436 1	KNH1_BOVIN	P01046 bos taurus
37	58	20.1	448 1	EXG1_YEAST	P23776 saccharomyc
38	58	20.1	621 1	KNH1_BOVIN	P01044 bos taurus
39	57.5	20.0	107 1	TIM4_BOVIN	O97563 bos taurus
40	57.5	20.0	2200 1	LAR_CAEEL	Q9bmm8 caenorhabdi
41	57	19.8	434 1	KNL2_BOVIN	P01047 bos taurus
42	57	19.8	619 1	KNH2_BOVIN	P01045 bos taurus
43	57	19.8	621 1	NIAT_MAIZE	P17571 zea mays (m
44	56	19.4	904 1	NIAT_TOBAC	P11605 nicotiana t
45	56	19.4	904 1	NIAT_TOBAC	P08509 nicotiana t

ALIGNMENTS

RESULT 1
ID CS11_HUMAN STANDARD; PRT; 137 AA.
AC Q9H112; Q9H113;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin II precursor.
GN CST11 OR CST8L.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.
OX NCBI_Taxid=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RX MEDLINE=21638749; PubMed=11780052;
RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Beasley O.P., Bird C.P., Blakey S.E., Bridgman A.M., Brown A.J.,
RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
RA Chapman J.C., Clamp W., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.B., Corby N.R.,
RA Coulson A., Coville G.J., Deadman R., Dharm P.D., Dunn M.,
RA Ellington A.G., Frankland J.A., Frazer A.A., French L., Garner P.,
RA Ellington D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.B.,
RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle B., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Lhvaeaelslho M.H., Leverisha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
RA Marsh V.L., Martin S.L., McConachie L.J., McKay K., McMurray A.A.,
RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
RA Phillimore B.J.C.T., Pratchalingam S.R., Plumb R.W., Ramday H.,
RA Rice C.M., Rose M.T., Scott C.B., Sehra H.K., Showkeen R., Sims S.,
RA Skuse C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,
RA Swan R.M., Symcote N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
RA Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,
RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
RA Rogers J.;
RT "The DNA sequence and comparative analysis of human chromosome 20.";
RL Nature 414:865-871(2001).
-1- SUBCELLULAR LOCATION: Secreted (Potential).
-1- ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=2;
Name=1;
IsoId=Q9H112-1; Sequence=Displayed;
Name=2;
IsoId=Q9H112-2; Sequence=VSP_001260;
Note=No experimental confirmation available;
-1- SIMILARITY: Belongs to the cystatin family.

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CC -----
DR EMBL: AL096677; CAC13170.1; -
DR EMBL: AL096677; CAC17423.1; -
DR HSSP: P01038; 1A90.
DR Genew: HGNC:15959; CST11.
DR InterPro: IPR000010; Cystatin.
DR Pfam: PF00031; Cystatin; 1.
DR SMART: SM00043; Cyt. 1.
DR PROSITE: PS00287; Cystatin; FALSE_NEG.
KW Thiol protease inhibitor; Signal; Alternative splicing.
FT SIGNAL 1 25 POTENTIAL.
FT CHAIN 1 25 CYSSTATIN 11.
FT SITE 26 137 SECONDARY AREA OF CONTACT (POTENTIAL).
FT SITE 75 79 BY SIMILARITY.
FT DISULFID 93 101 BY SIMILARITY.
FT DISULFID 114 134 N-LINKED (GLCNAC. .) (POTENTIAL).
FT CARBOHYD 131 131 Missing (in isoform 2).
FT VARSPLIC 76 110 /FTId=VSP_001260.
SQ SEQUENCE 137 AA; 16375 MW; C5856C39A585C3B CRC64;

Query Match 100.0%; Score 288; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 8.6e-30;
Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 KESDDKHFRIPLKVKQOVTHLEHNLVEMQWTCCKPEPTNCVPORE 52
DB 56 KESDDKHFRIPLKVKQOVTHLEHNLVEMQWTCCKPEPTNCVPORE 107

RESULT 2

CS11_MOUSE STANDARD; PRT; 139 AA.
ID CS11_MOUSE
AC Q9D269;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Cystatin 11 precursor.
GN CST11.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Epididymis;
RX MEDLINE=21085660; PubMed=11217851;
RA Kawai J., Shinozawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Aikawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana K. I.,
RA Saito T., Okazaki Y., Gotohori T., Bono H., Kasukawa T., Saito R.,
RA Kadoya K., Matsuda H. A., Ashburner M., Batalov S., Casavant T.,
RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochava H.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schriml L. M., Staahl P., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Oikido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Botfield D., Boylston N., Carninci P., de Bonaldo M. F.,
RA Brownstein W. J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Grotzinger S., Hill D., Hofmann M., Hume D. A., Kamiya M., Lee N. H.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyooka K., Wang K. H., Welt C., Whitaker C., Wilming L.,
RA Wyshak-Boris A., Yoshida K., Hasegawa Y., Kawai J. H., Kohetsuki S.,
RA Hayashizaki Y.,
RT "Functional annotation of a full-length mouse cDNA collection."
RL Nature 409:685-690(2001).
CC -1- SUBCELLULAR LOCATION: Secreted (Potential).
CC -1- SIMILARITY: Belongs to the cystatin family.

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CC -----
DR EMBL: AK020300; BAB32061.1; -
DR HSSP: P01034; 1G96.
DR MGD: MGI:1925490; Cst11.
DR InterPro: IPR000010; Cystatin.
DR Pfam: PF00031; Cystatin; 1.
DR SMART: SM00043; Cyt. 1.
DR PROSITE: PS00287; Cystatin; FALSE_NEG.
KW Thiol protease inhibitor; Signal.
FT SIGNAL 1 28 POTENTIAL.
FT CHAIN 29 139 CYSSTATIN 11.
FT SITE 76 80 SECONDARY AREA OF CONTACT (POTENTIAL).
FT DISULFID 94 102 BY SIMILARITY.
FT DISULFID 115 135 BY SIMILARITY.
FT CARBOHYD 134 134 N-LINKED (GLCNAC. .) (POTENTIAL).
SQ SEQUENCE 139 AA; 16217 MW; F228D9815FA32640 CRC64;

Query Match 57.3%; Score 165; DB 1; Length 139;
Best Local Similarity 59.6%; Pred. No. 4.3e-14;
Matches 31; Conservative 9; Mismatches 12; Indels 0; Gaps 0;

OY 1 KESDDKHFRIPLKVKQOVTHLEHNLVEMQWTCCKPEPTNCVPORE 52
DB 57 KESDDKHFRIPLKVKQOVTHLEHNLVEMQWTCCKPEPTNCVPORE 108

RESULT 3

CST8_MOUSE STANDARD; PRT; 142 AA.
ID CST8_MOUSE
AC P32766; O89102;
DT 01-OCT-1993 (Rel. 27, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin-related epididymal spermatozoal protein precursor (Cystatin-
DE related epididymal specific protein) (Cystatin 8).
GN CST8 OR CRES.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C3H, and CD-1;
RX MEDLINE=9247899; PubMed=10229662;
RA Cornwall G. A., Hsieh N., Sutton H. G.,
RT "Structure, alternative splicing and chromosomal localization of the
RT cystatin-related epididymal spermatozoal gene."
RL Biochem. J. 340:85-93(1999).
RN [2]
RP SEQUENCE OF 4-142 FROM N.A.
RC TISSUE=Epididymis;
RX MEDLINE=93078799; PubMed=1280328;
RA Cornwall G. A., O'Geachin-Crist M. C., Hann S. R.,
RT "The CRES gene: a unique testis-regulated gene related to the cystatin
RT family is highly restricted in its expression to the proximal region
RT of the mouse epididymis."
RL Mol. Endocrinol. 6:1653-1664(1992).
CC -1- FUNCTION: Performs a specialized role during sperm development and
CC maturation.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: Proximal caput region of the epididymis. Lower
CC expression in the testis. Within the testis it is localized to the
CC elongating spermatids, whereas within the epididymis it is
CC exclusively synthesized by the proximal caput epithelium.
CC -1- INDUCTION: Testicular factors or hormones other than androgens
CC present in the testicular fluid may be involved in the regulation

CC of CREB gene expression.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 CC EMBL: AF091503; AAC61754.1; -
 CC EMBL: AF090691; AAC6316.1; -
 CC EMBL: S49926; AAC35390.1; -
 CC PIR: A45361; A45361.
 CC HSP: P01034; I996.
 CC WGD: MGI:107161; Cat8.
 CC InterPro: IPR000010; Cystatin.
 CC Pfam: PF00031; cystatin; 1.
 CC SMART: SM00043; CY: 1.
 CC Thiol protease inhibitor; Signal.
 CC SIGNAL 1
 CC CHAIN 20 142
 CC SITE 77 81 POTENTIAL.
 CC FT DISUPEID 95 105 CYSSTATIN-RELATED EPIDIDYMAL SPERMATOGENIC
 CC FT DISUPEID 119 139 PROTEIN.
 CC FT CARBOHYD 39 39 SECONDARY AREA OF CONTACT (POTENTIAL).
 CC FT CARBOHYD 100 100 BY SIMILARITY.
 CC FT CONFLICT 4 15 N-LINKED (GLCNAC. . .) (POTENTIAL).
 CC FT CONFLICT 15 15 N-LINKED (GLCNAC. . .) (POTENTIAL).
 CC SQ SEQUENCE 142 AA; 16288 MW; 50B446B98F667E CRC64;
 CC
 CC Query Match 45.5%; Score 131; DB 1; Length 142;
 CC Best Local Similarity 41.5%; Pred. No. 9.5e-10;
 CC Matches 22; Conservative 16; Mismatches 13; Indels 2; Gaps 1;
 CC
 CC 1 KESDDKHFRIPLKVRQVTDHLEHNLVEMQWTCQRP--ETTCVPEQR 51
 CC 58 KESDDKVFVLDVXILHAKQITDREMYQIDVQISRSNCRKPLNNTENCIPQK 110
 CC
 CC RESULT 4
 CC CSTR_RAT STANDARD; PRT; 142 AA.
 CC AC 088969;
 CC DT 30-MAY-2000 (Rel. 39, Created)
 CC DT 30-MAY-2000 (Rel. 39, Last sequence update)
 CC DT 10-OCT-2003 (Rel. 42, Last annotation update)
 CC DE Cystatin-related epididymal spermatogenic protein precursor (Cystatin
 CC 8).
 CC GN CSTR OR CREB.
 CC OS Rattus norvegicus (Rat).
 CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 CC OX NCBI_TaxID=10116;
 CC RN (1)
 CC RP SEQUENCE FROM N.A.
 CC RC STRAIN=Sprague-Dawley; TISSUE=Epididymis;
 CC RX MEDLINE=99247899; PubMed=10229662;
 CC RA Cornwall G.A., Hsieh N., Sutton H.G.;
 CC RT "Structure, alternative splicing and chromosomal localization of the
 CC cystatin-related epididymal spermatogenic gene";
 CC RT Biochem. J. 340:85-93(1999).
 CC RL
 CC CC -1- FUNCTION: Performs a specialized role during sperm development and
 CC maturation.
 CC CC -1- SUBCELLULAR LOCATION: Secreted (By similarity).
 CC CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 CC EMBL: AF090692; AAC6317.1; -
 CC HSP: P01034; I996.
 CC InterPro: IPR000010; Cystatin.
 CC Pfam: PF00031; cystatin; 1.
 CC SMART: SM00043; CY: 1.
 CC Thiol protease inhibitor; Signal.
 CC SIGNAL 1
 CC CHAIN 20 142
 CC SITE 77 81 POTENTIAL.
 CC FT DISUPEID 95 105 CYSSTATIN-RELATED EPIDIDYMAL SPERMATOGENIC
 CC FT DISUPEID 119 139 PROTEIN.
 CC FT CARBOHYD 39 39 SECONDARY AREA OF CONTACT (POTENTIAL).
 CC FT CARBOHYD 100 100 BY SIMILARITY.
 CC FT CONFLICT 4 15 N-LINKED (GLCNAC. . .) (POTENTIAL).
 CC SQ SEQUENCE 142 AA; 16246 MW; FB873FAA6BCAB34 CRC64;
 CC
 CC Query Match 43.1%; Score 124; DB 1; Length 142;
 CC Best Local Similarity 42.3%; Pred. No. 7.4e-09;
 CC Matches 22; Conservative 13; Mismatches 15; Indels 2; Gaps 1;
 CC
 CC 1 KESDDKHFRIPLKVRQVTDHLEHNLVEMQWTCQRP--ETTCVPEQR 50
 CC 58 KESDDKVFVLDVXILHAKQITDREMYQIDVQISRSNCRKPLNNTENCIPQK 109
 CC
 CC RESULT 5
 CC CSTR_HUMAN STANDARD; PRT; 142 AA.
 CC AC 060676;
 CC DT 30-MAY-2000 (Rel. 39, Created)
 CC DT 30-MAY-2000 (Rel. 39, Last sequence update)
 CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
 CC DE Cystatin-related epididymal spermatogenic protein precursor (Cystatin
 CC 8).
 CC GN CSTR OR CREB.
 CC OS Homo sapiens (human).
 CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 CC OX NCBI_TaxID=9606;
 CC RN (1)
 CC RP SEQUENCE FROM N.A.
 CC RC TISSUE=Testis;
 CC RX MEDLINE=95344753; PubMed=7619504;
 CC RA Cornwall G.A., Hann S.R.;
 CC RT "Transient appearance of CREB protein during spermatogenesis and
 CC caput epididymal sperm maturation";
 CC RT Mol. Reprod. Dev. 41:37-46(1995).
 CC RL
 CC RN
 CC CC -1- FUNCTION: Performs a specialized role during sperm development and
 CC maturation.
 CC CC -1- SUBCELLULAR LOCATION: Secreted (By similarity).
 CC CC -1- SIMILARITY: Belongs to the cystatin family.
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RA Tracey A., Tromans A.C., Vaudin M., Walli M., Wallis J.M.,
 RA Whitehead S.L., Whitaker P., Willey D.L., Williams S.A.,
 RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
 RA Rogers J.,
 RL "The DNA sequence and comparative analysis of human chromosome 20,"
 CC Nature 414:865-871(2001).
 CC -1- FUNCTION: Performs a specialized role during sperm development and
 CC maturation.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC expression in the testis. Within the testis it is localized to the
 CC elongating spermatids, whereas within the epididymis it is
 CC exclusively synthesized by the proximal caput epididymium.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 CC EMBL: AF059244; AAC14707.1; -.
 CC EMBL: AL109954; CAB64234.1; -.
 CC HSP: P01034; I096.
 CC Genew: HGNC:2480; CSTB.
 CC GO: GO:0004689; F:cysteine protease inhibitor activity; TAS.
 CC InterPro: IPR000010; Cystatin.
 CC DR Pfam: PF00031; cystatin; 1.
 CC SMART: SM00043; CY; 1.
 CC KMW Thiol protease inhibitor; Signal; Polymorphism.
 CC FT SIGNAL 1 21 POTENTIAL.
 CC FT CHAIN 22 142 CYSTATIN-RELATED EPIDIDYMAL SPERMATOGENIC
 CC FT SITE 77 81 PROTEIN.
 CC FT DISULFID 95 105 SECONDARY AREA OF CONTACT (POTENTIAL).
 CC FT DISULFID 119 139 BY SIMILARITY.
 CC FT CARBOHYD 27 27 N-LINKED (GLCNAC. . .) (POTENTIAL).
 CC FT CARBOHYD 39 39 N-LINKED (GLCNAC. . .) (POTENTIAL).
 CC FT VARIANT 142 142 A -> P (in dbSNP:1054633).
 CC FT VARIANT 142 142 /FTID=VAR_014527.
 CC SQ SEQUENCE 142 AA; 16275 MW; 9A3512757E0F4EBCD CRC64;
 CC
 CC Query Match 40.6%; Score 117; DB 1; Length 142;
 CC Best Local Similarity 48.1%; Pred. No. 5.8e-06;
 CC Matches 25; Conservative 11; Mismatches 14; Indels 2; Gaps 1;
 CC
 CC QY 1 KESDDKHFRIPLVKQROVTDHLEHLNVEMQWTTCKPEPTN--CVPE 50
 CC Db 58 KESDDKVFPLVLTQNLQVTLNLEVLIDVETARSCKRPLSTNEICATGE 109
 CC
 CC RESULT 6
 CC CYTC RAT STANDARD; PRT; 127 AA.
 CC ID CYTC RAT STANDARD; PRT; 127 AA.
 CC AC P14841;
 CC DT 01-APR-1990 (Rel. 14, Created)
 CC DT 01-APR-1990 (Rel. 14, Last sequence update)
 CC DT 28-FEB-2003 (Rel. 41, Last annotation update)
 CC DE Cystatin C precursor (Fragment).
 CC GN GST3.
 CC OS Rattus norvegicus (Rat).
 CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 CC OX NCBI_TaxID=10116;
 CC RN [1]
 CC RP SEQUENCE FROM N.A.
 CC RC STRAIN=Buffalo;
 CC RX MEDLINE=90092122; PubMed=2689174;
 CC RA Cole T., Dickson P.W., Esmard F., Averill F., Risbridger G.,
 CC RA Gauthier F., Schreiber G.,
 CC RT "The CDNA structure and expression analysis of the genes for the

RT cysteine proteinase inhibitor cystatin C and for beta 2-microglobulin
 RT in rat brain.";
 RT Eur. J. Biochem. 186:35-42(1989).
 RN [2]
 RN SEQUENCE OF 8-127.
 RX MEDLINE=90380276; PubMed=2400577;
 RA Bernard F., Esnard A., Faucher D., Capony J.-P., Derancourt J.,
 RA Brillard M., Gauthier F.,
 RT "Rat cystatin C: the complete amino acid sequence reveals a site for
 RT N-glycosylation.";
 RT Biol. Chem. Hoppe-Seyler 371:161-166(1990).
 RN [3]
 RN SEQUENCE OF 8-49.
 RX MEDLINE=88313020; PubMed=3044831;
 RA Bernard A., Esnard F., Faucher D., Gauthier F.,
 RT "Two rat homologues of human cystatin C,"
 RL FEBS Lett. 236:475-478(1988).
 RN [4]
 RN SEQUENCE OF 8-20.
 RC TISSUE=Sertoli cells;
 RX MEDLINE=9225121; PubMed=1563513;
 RA Bernard A., Esnard F., Guillon F., Gauthier F.,
 RT "Production of the cysteine proteinase inhibitor cystatin C by rat
 RT Sertoli cells.";
 RL FEBS Lett. 300:131-135(1992).
 CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity. Known to inhibit cathepsin B,
 CC H. and L.
 CC -1- SIMILARITY: Belongs to the cystatin family.
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 CC -----
 CC EMBL: X16957; CAA34831.1; -.
 CC PIR: S07085; S07085.
 CC PIR: S10587; S10587.
 CC HSP: P01034; I096.
 CC InterPro: IPR000010; Cystatin.
 CC DR Pfam: PF00031; cystatin; 1.
 CC SMART: SM00043; CY; 1.
 CC DR PROSITE: PS00287; CYSTATIN; 1.
 CC KMW Thiol protease inhibitor; Signal.
 CC FT NON TER 1 1
 CC FT SIGNAL 1 7
 CC FT CHAIN 8 127
 CC FT ACT SITE 18 18 REACTIVE SITE.
 CC FT SITE 62 66 SECONDARY AREA OF CONTACT.
 CC FT DISULFID 80 90 BY SIMILARITY.
 CC FT DISULFID 104 124 BY SIMILARITY.
 CC FT CONFLICT 25 25 A -> E (in REF. 2).
 CC SQ SEQUENCE 127 AA; 14039 MW; 78F70158B7925853 CRC64;
 CC
 CC Query Match 36.8%; Score 106; DB 1; Length 127;
 CC Best Local Similarity 43.8%; Pred. No. 1.3e-06;
 CC Matches 21; Conservative 11; Mismatches 14; Indels 2; Gaps 1;
 CC
 CC QY 1 KESDDKHFRIPLVKQROVTDHLEHLNVEMQWTTCKPEPT--TNC 46
 CC Db 43 KGSNDVHSPALQVPRARQQLVAGINYLDEVGRTTCKSQTNLINC 90
 CC
 CC RESULT 7
 CC CYTC SAISC STANDARD; PRT; 146 AA.
 CC ID CYTC SAISC STANDARD; PRT; 146 AA.
 CC AC O19093;
 CC DT 15-JUL-1998 (Rel. 36, Created)
 CC DT 15-JUL-1998 (Rel. 36, Last sequence update)

DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Cystatin C precursor.
 GN CST3.
 OS Saimiri sciureus (Common squirrel monkey).
 CC Eukaryote; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Cebinae; Saimiri.
 NX NCBI_TaxID=9521;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=97054523; PubMed=8898820;
 RA Wei L.H., Walker L.C., Levy B.;
 RT "Cystatin C, Icelandic-like mutation in an animal model of
 RT cerebrovascular beta-amyloidosis.";
 RL Stroke 27:2080-2085(1996)
 CC - FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity.
 CC - SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL; U52028; AAB64051.1; -.
 DR HSSP; P01034; I966.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 DR SMART: SM00043; Cy; 1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 KW Thiol protease inhibitor; Amyloid; Signal.
 FT SIGNAL 1 26 BY SIMILARITY.
 FT CHAIN 27 146 CYSTATIN C.
 FT ACT_SITE 37 37 REACTIVE SITE.
 FT SITE 81 85 SECONDARY AREA OF CONTACT.
 FT DISULFID 99 109 BY SIMILARITY.
 FT DISULFID 123 143 BY SIMILARITY.
 SQ SEQUENCE 146 AA; 15946 MW; 08196353C0306AA3 CRC64;
 Query Match 34.4%; Score 99; DB 1; Length 146;
 Best Local Similarity 41.7%; Pred. No. 1.2e-05;
 Matches 20; Conservative 9; Mismatches 17; Indels 2; Gaps 1;
 QY 1 KESDDKXHFRIPLAKYQROVTDHLEHNLVNMQWTCQK--PETTC 46
 Db 62 KASNDKHSBALQVVRARQIVAGVNTFLDVEKERTTCTGNPRLDNC 109
 Db
 RESULT 8
 CYTC_RABBIT STANDARD; PRT; 148 AA.
 AC 097863;
 DT 15-OCT-2001 (Rel. 40, Created)
 DT 16-OCT-2001 (Rel. 40, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Cystatin C precursor.
 GN CST3.
 OS Oryzctolagus cuniculus (Rabbit).
 CC Eukaryote; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryzctolagus.
 NX NCBI_TaxID=9986;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Japanese white; TISSUE=Bone;
 RX MEDLINE=98424349; PubMed=9753427;
 RA Kobori M., Ikeda Y., Nara H., Kato M., Kumegawa M., Nojima H.,
 RA Kawashima H.;
 RT "Large scale isolation of osteoclast-specific genes by an improved
 RT method involving the preparation of a subtracted cDNA library.";
 RL Genes Cells 3:459-475(1998).

CC - FUNCTION: This is a thiol proteinase inhibitor.
 CC - SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 CC EMBL; AB009342; BAA75921.1; -.
 DR HSSP; P01034; I966.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam; PF00031; cystatin; 1.
 DR SMART; SM00043; Cy; 1.
 DR PROSITE; PS00287; CYSTATIN; PALSE_NEG.
 KW Thiol protease inhibitor; Signal.
 FT SIGNAL 1 28 POTENTIAL.
 FT CHAIN 29 148 CYSTATIN C.
 FT ACT_SITE 39 39 REACTIVE SITE.
 FT SITE 83 87 SECONDARY AREA OF CONTACT.
 FT DISULFID 101 111 BY SIMILARITY.
 FT DISULFID 125 145 BY SIMILARITY.
 SQ SEQUENCE 148 AA; 16346 MW; 1523C831169B5B9A CRC64;
 Query Match 34.4%; Score 99; DB 1; Length 148;
 Best Local Similarity 39.6%; Pred. No. 1.2e-05;
 Matches 19; Conservative 13; Mismatches 14; Indels 2; Gaps 1;
 QY 1 KESDDKXHFRIPLAKYQROVTDHLEHNLVNMQWTCQK--TNC 46
 Db 64 KGSNDKHSBALQVVRARQIVAGVNTFLDVEKERTTCTGNPRLDNC 111
 Db
 RESULT 9
 CYTC_MOUSE STANDARD; PRT; 140 AA.
 AC P21460;
 DT 01-MAY-1991 (Rel. 18, Created)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Cystatin C precursor (Cystatin 3).
 GN Mus musculus (Mouse).
 CC Eukaryote; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 NX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=BALB/c; TISSUE=Brain;
 RX MEDLINE=91054522; PubMed=2241983;
 RA Solem M., Rawson C., Lindburg K., Barnes D.;
 RT "Transforming growth factor beta regulates cystatin C in serum-free
 RT mouse embryo (SPME) cells.";
 RL Biochem. Biophys. Res. Commun. 172:945-951(1990).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=129/SV; TISSUE=Liver;
 RX MEDLINE=95137392; PubMed=7835704;
 RA Hub C., Nagle J.W., Kozak C.A., Abrahamson M., Karlsson S.;
 RT "Structural organization, expression and chromosomal mapping of the
 RT mouse cystatin-C-encoding gene (Cst3).";
 RL Gene 152:221-226(1995).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC STRAIN=ILS; and ISS;
 RX MEDLINE=21363810; PubMed=11471062;
 RA Ehringer M.A., Thompson J., Conroy O., Xu Y., Yang F., Cammiff J.,
 RA Beeson M., Gordon L., Bennett B., Johnson T.B., Sikeia J.W.;
 RT "High-throughput sequence identification of gene coding variants
 RT within alcohol-related QTLs.";
 RL Mamm. Genome 12:657-663(2001).

[4]
 RN SEQUENCE FROM N.A.
 RP MEDLINE=22386257; PubMed=12477932;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heide F.,
 RA Diachenko L., Marisla G., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Udell T.B., Tothiyak S., Canninci P., Prange C.J.,
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullany S.J.,
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
 RA Vallalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butlerfield Y.S.N., Krzywinski M.I., Skalek U., Smallen D.E.,
 RA Schermer A., Schein J.E., Jones S.J.M., Marra M.A.;
 RA "Generation and initial analysis of more than 15,000 full-length
 RT human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 CC EMBL: M59470; AAA63298.1; -;
 CC EMBL: U10098; AAB41056.1; -;
 CC EMBL: AF483486; AAL90760.1; -;
 CC EMBL: AF483487; AAL90761.1; -;
 CC EMBL: BC002072; AAH02072.1; -;
 CC PIR: A36163; A36163.
 CC HSSP: P01034; 1G96.
 CC MGD: MGI:102519; Cat3.
 CC InterPro: IPR000010; Cystatin.
 CC Pfam: PF00031; Cystatin.1.
 CC SMART: SM00043; Cy.1.
 CC PROSITE: PS00287; CYSTATIN.1.
 CC K101 protease inhibitor; Signal.
 CC -----
 CC FT CHAIN 1 140 CYSRATIN C.
 CC FT SIGNAL 20
 CC FT ACT_SITE 31 31 REACTIVE SITE.
 CC FT SITE 75 79 SECONDARY AREA OF CONTACT.
 CC FT DISULFID 93 103 BY SIMILARITY.
 CC FT DISULFID 117 137 BY SIMILARITY.
 CC FT CONFLICT 16 16 A -> G (IN REF. 1).
 CC FT CONFLICT 84 84 L -> F (IN REF. 1).
 CC FT SEQUENCE 140 AA; 15531 MM; 3A563406DD58D0F5 CRC64;
 CC SQ
 CC -----
 CC Query Match 33.7%; Score 97; DB 1; Length 140;
 CC Best Local Similarity 41.7%; Pred. No. 2e-05;
 CC Matches 20; Conservative 11; Mismatches 15; Indels 2; Gaps 1;
 CC -----
 CC QY 1 KESDDKTHFRIVLKVQRTDHLRYHLNVNQWTTCCQKPT--TNC 46
 CC DB 56 KGSNDAYHSRAIQVRAKQKLVAGVNYFLDVMGRITCTKSQITLDC 103
 CC -----
 CC RESULT 10
 CC ID CYTC_HUMAN STANDARD; PRT; 146 AA.
 CC AC P01034;
 CC DT 21-JUL-1986 (Rel. 01, Created)

DT 01-AUG-1988 (Rel. 08, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Cystatin C precursor (Neuroendocrine basic polypeptide) (gamma-trace)
 DE (Post-gamma-globulin).
 GN CST3.
 OS Homo sapiens (human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 NC NCBI_Taxid=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Placenta;
 RX MEDLINE=87219149; PubMed=3495457;
 RA Abrahamson M., Grubb A., Olafsson I., Lundwall A.;
 RT "Molecular cloning and sequence analysis of cDNA coding for the
 RT precursor of the human cysteine proteinase inhibitor cystatin C.";
 RL FEBS Lett. 216:229-233(1987).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Leukocyte;
 RX MEDLINE=90303202; PubMed=2363674;
 RA Abrahamson M., Olafsson I., Paladocitir A., Ulvbaeck M., Lundwall A.,
 RA Jenson O., Grubb A.;
 RT "Structure and expression of the human cystatin C gene.";
 RL Biochem. J. 268:287-294(1990).
 RN [3]
 RP SEQUENCE FROM N.A. (HCHWA VARIANT).
 RC TISSUE=Brain;
 RX MEDLINE=89235594; PubMed=2541223;
 RA Levy E., Lopez-Otin C., Ghiso J., Gelner D., Frangione B.;
 RT "Stroke in Icelandic patients with hereditary amyloid angiopathy is
 RT related to a mutation in the cystatin C gene, an inhibitor of
 RT cysteine proteinases.";
 RL J. Exp. Med. 169:1771-1778(1989).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=89350949; PubMed=2764935;
 RA Satoh E., Sabatini L.M., Eddy R.L., Shows T.B., Azen E.A.;
 RA Isemura S., Sanada K.;
 RT "The human cystatin C gene (CST3) is a member of the cystatin gene
 RT family which is localized on chromosome 20.";
 RL Biochem. Biophys. Res. Commun. 162:1324-1331(1989).
 RN [5]
 RP SEQUENCE FROM N.A.
 RA Dickinson D.P., Hewett-Emmett D., Thiesse M.;
 RT "Acquisition of complex patterns of differential expression in
 RT epithelial cell populations during the evolution of type 2 cystatin
 RT genes.";
 RL Submitted (NOV-2000) to the EMBL/GenBank/DBJ databases.
 RN [6]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=21638749; PubMed=11780052;
 RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
 RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Baguley C.L.,
 RA Bailey J.P., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
 RA Beasley O.P., Bird C.P., Blakey S.E., Bridgman A.M., Brown A.J.,
 RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
 RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
 RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
 RA Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,
 RA Ellington A.G., Frankland J.A., Fraser A.A., French L., Garner P.,
 RA Graffham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
 RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
 RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
 RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
 RA Lechay S.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
 RA Marsh V.L., Martin S.L., McConachie L.J., McKay K., McMurtry A.A.,
 RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
 RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
 RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,
 RA Rice C.M., Rose M.T., Scott C.E., Sehra H.K., Showstreen R., Sims S.,
 RA Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,
 RA Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,

RA Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,
 RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
 RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
 RA Rogers J.;
 RT "The DNA sequence and comparative analysis of human chromosome 20.";
 RL Nature 414:865-871(2001).
 RN [7]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=23388257; PubMed=12477932;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Bhat N.K.,
 RA Altschuler S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diachenko L., Marusik K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Donald M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Uadin T.B., Toshitsuki S., Cantini P., Prange C.,
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullany S.J.,
 RA Bosak S.A., McKernan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richarde S., Morley K.C., Hale S., Garcia A.M., Gay L.U., Hulyk S.W.,
 RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Halton E., Kettelman M., Madan A., Rodriguez S., Sanchez A.,
 RA Blakesley R.W., Touchman J.W., Green B.D., Dickson M.C.,
 RA Rodriguez A.C., Krzywinski M.I., Skalska U., Smalins D.E.,
 RA Schmecher A., Schein J.E., Jones S.J.W., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length
 RT human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 RN [8]
 RP SEQUENCE OF 27-146.
 RX MEDLINE=82222268; PubMed=6283552;
 RA Grubb A., Loeffberg H.;
 RT "Human gamma-trace, a basic microprotein: amino acid sequence and
 RT presence in the adenohypophysis.";
 RL Proc. Natl. Acad. Sci. U.S.A. 79:3024-3027(1982).
 RN [9]
 RP SEQUENCE OF 27-73.
 RX MEDLINE=84110059; PubMed=6662498;
 RA Turk V., Brzin J., Longer M., Ritonja A., Bropink M., Borchart U.,
 RA Machleidt W.;
 RT "Protein inhibitors of cysteine proteinases. III. Amino-acid sequence
 RT of cystatin from chicken egg white.";
 RL Hoppe-Seyler's Z. Physiol. Chem. 364:1487-1496(1983).
 RN [10]
 RP SEQUENCE OF 27-76.
 RX MEDLINE=84128015; PubMed=6365094;
 RA Brzin J., Popovic T., Turk V.;
 RT "Human cystatin, a new protein inhibitor of cysteine proteinases.";
 RL Biochem. Biophys. Res. Commun. 118:103-109(1984).
 RN [11]
 RP DISULFIDE BONDS.
 RA Grubb A., Loeffberg H., Barrett A.J.;
 RT "The disulphide bridges of human cystatin C (gamma-trace) and chicken
 RT cystatin.";
 RL FEBS Lett. 170:370-374(1984).
 RN [12]
 RP X-RAY CRYSTALLOGRAPHY (2.50 ANGSTROMS) OF 27-146.
 RX MEDLINE=21173909; PubMed=11276250;
 RA Janowski R., Kozak M., Jankowska E., Grzonka Z., Grubb A.,
 RA Abrahamson M., Jaskolski M.;
 RT "Human cystatin C, an amyloidogenic protein, dimerizes through
 RT three-dimensional domain swapping.";
 RL Nat. Struct. Biol. 8:316-320(2001).
 RN [13]
 RP VARIANT GLN-94.
 RX MEDLINE=92316504; PubMed=1352269;
 RA Abrahamson M., Jonsdottir S., Olafsson I., Jenson O., Grubb A.;
 RT "Hereditary cystatin C amyloid angiopathy: identification of the
 RT disease-causing mutation and specific diagnosis by polymerase chain
 RT reaction based analysis.";
 RL Hum. Genet. 89:377-380(1992).

CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity.
 CC -1- SUBUNIT: Homodimer.
 CC -1- TISSUE SPECIFICITY: Expressed in highest levels in the epididymis,
 CC vas deferens, brain, thymus, and ovary and the lowest in the
 CC submandibular gland.
 CC -1- DISEASE: Defects in CST3 are a cause of hereditary cerebral
 CC hemorrhage with amyloidosis (HCHWA) (MIM:105150); also known as
 CC cerebral amyloid angiopathy (CAA) or cerebroarterial amyloidosis
 CC Icelandic type. HCHWA is characterized by a thickening of the
 CC cerebral arteries walls with deposition of material with the
 CC characteristics of amyloid.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 DR EMBL: X05607; CAA29096.1; -;
 DR EMBL: X52255; CAA36497.1; -;
 DR EMBL: M27891; AAA52164.1; -;
 DR EMBL: M27889; AAA52164.1; JOINED.
 DR EMBL: M27890; AAA52164.1; JOINED.
 DR EMBL: X61681; CAA43856.2; -;
 DR EMBL: X61682; CAA43856.2; JOINED.
 DR EMBL: X61683; CAA43856.2; JOINED.
 DR EMBL: AP319564; AAK1570.1; -;
 DR EMBL: AL121894; CAC05424.1; -;
 DR EMBL: BC013083; AAH13083.1; -;
 DR PIR: S10216; UDHU.
 DR PDB: 1G96; 06-APR-01.
 DR Genew: HGNC:2475; CST3.
 DR MIM: 604312; -;
 DR MIM: 105150; -;
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin, 1.
 DR SMART: SM00043; Cy, 1.
 DR PROSITE: PS00267; CYSTATIN; 1.
 KW Thiol protease inhibitor; Amyloid; Signal; Disease mutation;
 KW Polymorphism; 3D-structure.
 FT SIGNAL 1 26
 FT CHAIN 27 146 CYSTATIN C.
 FT ACT SITE 37 37 REACTIVE SITE.
 FT SITE 81 85 SECONDARY AREA OF CONTACT.
 FT DISULFID 99 109
 FT DISULFID 123 143
 Query Match 33.3%; Score 96; DB 1; Length 146;
 Best Local Similarity 39.6%; Pred. No. 2,9e-05;
 Matches 19; Conservative 10; Mismatches 17; Indels 2; Gaps 1;
 QY 1 KESDDKTHFRIPYLVKQOVDTLBYHLNVERKQWTTQCK--PETTNC 46
 DB 62 KAASNDWYSPALQVAVARKQIVAGVNYFLDVEIGRTCTGTQPNLDMC 109
 ID CYTC MACMU STANDARD; PRT; 146 AA.
 AC 019092;
 DT 15-JUN-1998 (Rel. 36, Created)
 DT 15-JUN-1998 (Rel. 36, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Cystatin C precursor.
 OS CST3.
 GN Macaca mulatta (Rhesus macaque).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;

CC Cercopithecinae; Macaca.
 RX NCBI_TaxID=9544;
 RP SEQUENCE FROM N.A.
 RA MEDLINE=97054523; PubMed=8898820;
 RT "Cystatin C, Walker L.C., Levy E.;
 RT cerebrowascular beta-amyloidosis.";
 RL Stroke 27:2080-2085 (1996).
 CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 DR EMBL; U51913; AAB64050.1; -.
 DR HSPSP; P01034; I096.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF000031; cystatin; 1.
 DR SMART; SM00043; CY; 1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 DR Thiol protease inhibitor; Signal; 1.
 KW Thiol protease inhibitor; Amyloid; Signal.
 FT SIGNAL 1 26
 FT CHAIN 27 146
 FT ACT_SITE 37 37 REACTIVE SITE.
 FT SITE 81 85 SECONDARY AREA OF CONTACT.
 FT DISUFID 99 109 BY SIMILARITY.
 FT DISUFID 123 143 BY SIMILARITY.
 SQ SEQUENCE 146 AA; 15857 MW; F0B3BB774A25DF26 CRC64;
 Query Match 33.3%; Score 96; DB 1; Length 146;
 Best Local Similarity 39.6%; Pred. No. 2.9e-05;
 Matches 19; Conservative 10; Mismatches 17; Indels 2; Gaps 1;
 QY 1 KESDDKHFRIFRVLYKQROVTDHLEHLNVEMQWTTCKR--PTTNC 46
 DB 62 KASNDWYHRAQVVRARQIVAGVNYFLDVELGRITCTKQPLINDC 109
 RESULT 12
 ID CYTC_BOVIN STANDARD; PRT; 148 AA.
 AC P01035;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 15-JUL-1999 (Rel. 38, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Cystatin C precursor (Colostrum thiol proteinase inhibitor).
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Bovinae; Bos.
 NCBI_TaxID=9913;
 [1]
 RN SEQUENCE FROM N.A., SEQUENCE OF 66-83, AND CHARACTERIZATION.
 RP TISSUE=Cerebrospinal fluid, and Choroid plexus;
 RX MEDLINE=98094199; PubMed=9434110;
 RA Olsson S.-L., Ek B., Wilm M., Broberg S., Raak L., Bjoeck I.;
 RT "Molecular cloning and N-terminal analysis of bovine cystatin C
 RT identification of a full-length N-terminal region.";
 RL Biochim. Biophys. Acta 1343:203-210(1997).
 [2]
 RN SEQUENCE OF 37-148.
 RP MEDLINE=85231205; PubMed=3891407;
 RA Hirado M., Tsunashima S., Sakiyama F., Nishibe M., Fujii S.;
 RT "Complete amino acid sequence of bovine colostrum low-Mr cysteine

RT proteinase inhibitor.";
 RL FEBS Lett. 186:41-45(1985).
 CC -1- FUNCTION: This is a thiol proteinase inhibitor.
 CC -1- MASS SPECTROMETRY: MW=13420; METHOD=MALDI.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 DR EMBL; Y10811; CAA71771.1; -.
 DR HSPSP; P01034; I096.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF000031; cystatin; 1.
 DR SMART; SM00043; CY; 1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 KW Thiol protease inhibitor; Signal; Pyrrolidone carboxylic acid.
 FT SIGNAL 1 30
 FT CHAIN 31 148
 FT MOD_RES 31 31
 FT ACT_SITE 40 40 REACTIVE SITE.
 FT SITE 84 88 SECONDARY AREA OF CONTACT.
 FT DISUFID 102 112 BY SIMILARITY.
 FT DISUFID 126 146 BY SIMILARITY.
 SQ SEQUENCE 148 AA; 16265 MW; E6740FE37CBB9F0E CRC64;
 Query Match 31.3%; Score 92; DB 1; Length 148;
 Best Local Similarity 40.5%; Pred. No. 9.4e-05;
 Matches 17; Conservative 10; Mismatches 15; Indels 0; Gaps 0;
 QY 1 KESDDKHFRIFRVLYKQROVTDHLEHLNVEMQWTTCKR 42
 DB 65 KRSNDAYQSRVVRVVRARQVSGMNYFLDVELGRITCTKQ 106
 RESULT 13
 ID CYT_CHICK STANDARD; PRT; 139 AA.
 AC P01038;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-OCT-1989 (Rel. 12, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Cystatin precursor (Egg-white cystatin).
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Gallus.
 NCBI_TaxID=9031;
 [1]
 RN SEQUENCE FROM N.A.
 RP MEDLINE=90008873; PubMed=2793849;
 RA Colella R., Sakaguchi Y., Nagase H., Bird J.W.C.;
 RT "Chicken egg white cystatin. Molecular cloning, nucleotide sequence,
 RT and tissue distribution.";
 RL J. Biol. Chem. 264:17164-17169 (1989).
 [2]
 RN SEQUENCE OF 24-139.
 RP MEDLINE=84178305; PubMed=6712597;
 RA Schwabe C., Anestasi A., Crow H., McDonald J.K., Barrett A.J.;
 RT "Cystatin. Amino acid sequence and possible secondary structure.";
 RL Biochem. J. 217:813-817 (1984).
 [3]
 RN SEQUENCE OF 24-139.
 RP MEDLINE=84110059; PubMed=6662498;
 RA Turk V., Brzin J., Longer M., Ritonja A., Eropkin M., Borchart U.,
 RA Machleidt W.;
 RT "Protein inhibitors of cysteine proteinases. III. Amino-acid sequence
 RT of cystatin from chicken egg white.";
 RL Hoppe-Seyler's Z. Physiol. Chem. 364:1487-1496 (1983).


```

AC P08935;
DC 01-NOV-1988 (Rel. 09, Created)
DT 01-NOV-1988 (Rel. 09, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin.
OS Bitis arietans (African puff adder).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroides;
OC Viperidae; Viperinae; Bitis.
OX NCBI_TaxID=8692;
RN [1]
RP SEQUENCE.
RC TISSUE=Venom;
RX MEDLINE=88076861; PubMed=3500714;
RA Ritonja A., Evans H.J., Machleidt W., Barrett A.J.;
RT "Amino acid sequence of a cystatin from venom of the African puff
RL adder (Bitis arietans).";
CC Biochem. J. 246:799-802(1987).
CC -|- SUBCELLULAR LOCATION: Secreted.
CC -|- SIMILARITY: Belongs to the cystatin family.
DR HSSP; A28793; A28793.
DR HSSP; P01038; 1CEW.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; CY; 1.
DR PROSITE; PS00287; CYSTATIN; 1.
KM Thiol protease inhibitor.
FT ACT SITE 3 3 REACTIVE SITE.
FT SITE 47 51 SECONDARY AREA OF CONTACT.
FT DISULFID 65 81 PROBABLE.
FT VARIANT 57 57 M -> T (IN EQUAL AMOUNT).
SQ SEQUENCE 111 AA; 12678 MW; 1A31B6B246ACA10C CRC64;

Query Match 29.0%; Score 83.5; DB 1; Length 111;
Best Local Similarity 33.9%; Pred. No. 0.00084;
Matches 20; Conservative 13; Mismatches 17; Indels 9; Gaps 2;

QY 3 SDDKYHFRIRPVLVKQROVTDHLEHYHLNVEMQWTTCK-----PETTNC-VPOERE 52
DB 30 SKNDYVYFKERRVVEAQGVVSGVYKYLMMELTKTKKTVGRPKGYOIONCNLPENQ 88

```

Search completed: March 23, 2004, 17:11:06
 Job time : 6.87448 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:05:48 ; Search time 27.8494 Seconds
(without alignments)
589.132 Million cell updates/sec

Title: US-09-941-314-14
Perfect score: 288
Sequence: 1 KESDDKXHFRIFFVLKQVRO.....MOWTTCOKPETTCVPOERE 52

Scoring table: BLOSUM62
Gapop 10.0 , Gapekt 0.5

Searched: 1017041 seqs, 315518202 residues
Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriap:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	288	100.0	138	4 Q8WXU6	Q8WXU6 homo sapien
2	158	54.9	139	11 Q8K5A3	Q8K5A3 rattus norv
3	114	39.6	141	11 Q9DAP1	Q9DAP1 mus musculu
4	114	39.6	141	11 Q8OZNS	Q8OZNS mus musculu
5	104	36.1	103	4 Q8WXU5	Q8WXU5 homo sapien
6	97	33.7	140	11 Q9EXX9	Q9EXX9 mus musculu
7	86	29.9	112	13 Q98SR4	Q98SR4 acipenser s
8	86	29.9	112	13 Q98SR3	Q98SR3 acipenser s
9	77	26.7	425	3 Q12700	Q12700 debaromyce
10	76.5	26.6	109	5 Q9TY65	Q9TY65 onchocerca
11	75	26.0	148	5 Q9NH95	Q9NH95 litomosoid
12	74	25.7	161	5 Q16159	Q16159 brugia mala
13	72	25.0	140	11 Q80T72	Q80T72 mus musculu
14	69.5	24.1	146	11 Q8K397	Q8K397 mus musculu
15	69.5	24.1	149	11 Q9D1B1	Q9D1B1 mus musculu
16	69	24.0	149	11 Q8VHC1	Q8VHC1 rattus norv

17	69	24.0	1779	5 Q18150	Q18150 caenorhabdi
18	66	22.9	125	5 Q25620	Q25620 onchocerca
19	65	22.6	133	5 Q8WVB6	Q8WVB6 ixodes scap
20	65	22.6	498	5 Q16454	Q16454 caenorhabdi
21	64	22.2	148	11 Q9JH84	Q9JH84 mus musculu
22	64	22.2	157	5 Q17108	Q17108 acanthochei
23	63	21.9	167	4 Q724J8	Q724J8 homo sapien
24	63	21.9	438	3 Q9URJ8	Q9URJ8 candida alb
25	62.5	21.7	144	13 Q8JFUS	Q8JFUS brachydanio
26	62.5	21.7	724	11 Q8WBD1	Q8WBD1 mus musculu
27	62	21.5	302	4 Q9H740	Q9H740 homo sapien
28	62	21.5	421	4 Q9NXS0	Q9NXS0 homo sapien
29	62	21.5	633	11 Q8K145	Q8K145 mus musculu
30	62	21.5	995	4 Q9HC18	Q9HC18 homo sapien
31	61.5	21.4	795	4 Q96DV1	Q96DV1 homo sapien
32	61	21.2	127	5 P90698	P90698 brugia mala
33	61	21.2	284	16 Q88207	Q88207 lactobacill
34	61	21.2	400	13 Q8UVR3	Q8UVR3 xenopus lae
35	61	21.2	787	11 Q8B182	Q8B182 mus musculu
36	60	20.8	159	4 Q8TD53	Q8TD53 homo sapien
37	60	20.8	204	4 Q8TCY7	Q8TCY7 homo sapien
38	60	20.8	275	4 Q8WYG2	Q8WYG2 homo sapien
39	60	20.8	357	4 Q724G5	Q724G5 homo sapien
40	60	20.8	544	6 Q28548	Q28548 ovis aries
41	59.5	20.7	325	16 Q05502	Q05502 bacillus su
42	59	20.5	429	3 Q12628	Q12628 kuoyeronyc
43	59	20.5	540	5 Q8T9G8	Q8T9G8 drosophila
44	59	20.5	966	5 Q8T9K4	Q8T9K4 drosophila
45	59	20.5	966	5 Q9VLM8	Q9VLM8 drosophila

ALIGNMENTS

RESULT 1

ID Q8WXU6 PRELIMINARY; PRT; 138 AA.
AC Q8WXU6;
DT 01-MAR-2002 (T-EMBLrel. 20, Created)
DT 01-MAR-2002 (T-EMBLrel. 20, Last sequence update)
DT 01-JUN-2003 (T-EMBLrel. 24, Last annotation update)
DE SC13.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RA Hamil K.G., Liu Q., Zhang Y.-L., French P.S., Hall S.H.;
RT "SC13: A novel epididymal specific member of the cystatin family.";
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF335480; ALU7191.1; -
DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; Cystatin; 1.
DR SMART; SM00043; Cy; 1.
SQ SEQUENCE 138 AA; 16506 MW; E49440ACA3585C64 CRC64;

Query Match 100.0%; Score 288; DB 4; Length 138;
Best Local Similarity 100.0%; Pred. No. 2.5e-30;
Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIFFVLKQVROVTHLEHNLAVEMQWTTCKPETHNCVPOERE 52
Db 57 KESDDKXHFRIFFVLKQVROVTHLEHNLAVEMQWTTCKPETHNCVPOERE 108

RESULT 2

ID Q8K5A3 PRELIMINARY; PRT; 139 AA.
AC Q8K5A3;
DT 01-OCT-2002 (T-EMBLrel. 22, Created)
DT 01-OCT-2002 (T-EMBLrel. 22, Last sequence update)

DT 01-JUN-2003 (TReMBLrel. 24, Last annotation update)
 DE Cystatin 11.
 GN CST11.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Sprague-Dawley;
 RA Hamil K.G., Hall S.H.;
 RL Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; Cystatin; 1.
 DR SMART; SM00043; CY; 1.
 SQ SEQUENCE 139 AA; 1668 MW; B1E36DB786B4D08C CRC64;
 Query Match 54.9%; Score 158; DB 11; Length 139;
 Best Local Similarity 53.8%; Pred. No. 4,4e-13;
 Matches 28; Conservative 12; Mismatches 12; Indels 0; Gaps 0;
 QY 1 KESDDKTHFRIFRLVKQROVTDHLEVHLNVEWMTTCQK--PETTNCVPOE 52
 Db 57 KKSIEDLYNFRILRIKLEKQNTNMEPHITVEMQRTCLTKTKVLNVQEGE 108
 RESULT 3
 Q9DAP1 PRELIMINARY; PRT; 141 AA.
 ID Q9DAP1;
 AC Q9DAP1;
 DT 01-JUN-2001 (TReMBLrel. 17, Created)
 DT 01-JUN-2001 (TReMBLrel. 17, Last sequence update)
 DT 01-JUN-2003 (TReMBLrel. 24, Last annotation update)
 DE 1700006C19RIK protein.
 GN 1700006C19RIK.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Testis;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai J., Shingawa A., Shibata K., Yoshino M., Itch M., Ishii Y.,
 Atakawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,
 Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamataka I.,
 Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
 Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 Fleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,
 Kuehl P., Lewis S., Matsuo Y., Nikaide I., Pesole G., Quackenbush J.,
 Schirral L.M., Staudt F., Suzuki R., Tomita M., Wagner L., Mashio T.,
 Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
 Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
 Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
 Lyons P., Marchionni L., Mashima J., Marzella J., Mombauts P.,
 Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
 Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.F.,
 Suzuki H., Toyooka K., Wang K.H., Welter C., Whitaker C., Winking L.,
 Wyshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohanski S.,
 Hayashizaki Y.;
 RA "Functional annotation of a full-length mouse cDNA collection."
 RT Nature 409:685-690(2001).
 RL EMBL; AK005665; BAB24175.1; -.
 DR HSSP; P01038; ICEW.
 DR MGD; MGI:1916544; 1700006C19RIK.
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; Cystatin; 1.
 DR SMART; SM00043; CY; 1.
 SQ SEQUENCE 141 AA; 16811 MW; C20FA0DB8B1AC378C CRC64;

Query Match 39.6%; Score 114; DB 11; Length 141;
 Best Local Similarity 44.2%; Pred. No. 3.1e-07;
 Matches 23; Conservative 11; Mismatches 16; Indels 2; Gaps 1;
 QY 1 KESDDKTHFRIFRLVKQROVTDHLEVHLNVEWMTTCQK--PETTNCVPOE 50
 Db 57 KASNDLYNFRVVDILKSQEQITDSLEYLVENIARTCKKAGDNENCLFQQ 108
 RESULT 4
 ID Q80ZNS PRELIMINARY; PRT; 141 AA.
 AC Q80ZNS;
 DT 01-JUN-2003 (TReMBLrel. 24, Created)
 DT 01-JUN-2003 (TReMBLrel. 24, Last sequence update)
 DT 01-OCT-2003 (TReMBLrel. 25, Last annotation update)
 DE RIKEN cDNA 1700006C19 gene.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testicle;
 RA Strauberg R.;
 RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL; BC048681; AAH48681.1; -.
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; Cystatin; 1.
 DR ProDom; PD001231; Cystatin_C/M; 1.
 DR SMART; SM00043; CY; 1.
 SQ SEQUENCE 141 AA; 16825 MW; C20FA0DB8B1AC378C CRC64;
 Query Match 39.6%; Score 114; DB 11; Length 141;
 Best Local Similarity 44.2%; Pred. No. 3.1e-07;
 Matches 23; Conservative 11; Mismatches 16; Indels 2; Gaps 1;
 QY 1 KESDDKTHFRIFRLVKQROVTDHLEVHLNVEWMTTCQK--PETTNCVPOE 50
 Db 57 KASNDLYNFRVVDILKSQEQITDSLEYLVENIARTCKKAGDNENCLFQQ 108
 RESULT 5
 ID Q8WXU5 PRELIMINARY; PRT; 103 AA.
 AC Q8WXU5;
 DT 01-MAR-2002 (TReMBLrel. 20, Created)
 DT 01-MAR-2002 (TReMBLrel. 20, Last sequence update)
 DT 01-JUN-2003 (TReMBLrel. 24, Last annotation update)
 DE SC13delta.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC Hamil K.G., Liu O., Zhang Y.-L., French F.S., Hall S.H.;
 RA "SC13: A novel epidiymal specific member of the cystatin family."
 RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF35481; AAL71992.1; -.
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; Cystatin; 1.
 SQ SEQUENCE 103 AA; 12285 MW; 05DD92C47387B022 CRC64;
 Query Match 36.1%; Score 104; DB 4; Length 103;
 Best Local Similarity 100.0%; Pred. No. 4.7e-06;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 KESDDKTHFRIFRLVKQRO 20

Db 57 KESDDKXHFRIPLVLRKQVQ 76

RESULT 6

Q98SR3 ID Q98SR3 PRELIMINARY; PRT; 140 AA.
AC Q98SR3; 01-JUN-2001 (TEMBLrel. 16, Created)
DT 01-JUN-2001 (TEMBLrel. 16, Last sequence update)
DE 01-JUN-2003 (TEMBLrel. 24, Last annotation update)
OS Cystatin C.
OC Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=BALB/C;
RX MEDLINE=21010502; PubMed=11144350;
RA Taupin F.J., Ray J., Fischer W.H., Suhr S.T., Hakanson K., Grubb A.,
Gage F.H.;
RT "FGF-2-Responsive neural stem cell proliferation requires CCG, a novel
autocrine/paracrine cofactor.";
RL Neuron 28:385-397(2000).
DR EMBL; AF311741; AAC40283.1; -.
DR HSSP; P01034; I996.
DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; CY: 1.
DR PROSITE; PS00287; CYSTATIN; 1.
FT CHAIN 21 140 CYSTATIN C.
FT VARIANT 16 16 A -> G.
FT VARIANT 84 84 L -> F.
SQ SEQUENCE 140 AA; 15517 MW; 3A563406D58D785 CRC64;

Query Match 33.7%; Score 97; DB 11; Length 140;
Best Local Similarity 41.7%; Pred. No. 5.5e-05;
Matches 20; Conservative 11; Mismatches 15; Indels 2; Gaps 1;

QY 1 KESDDKXHFRIPLVLRKQVQVTDHLEYNLVNEMQWTTCK 46
Db 56 KGSNDVHRSRIVRARKQVAVGVNIFLDVEMKRTTCTSGNLTTC 103

RESULT 7
Q98SR4 ID Q98SR4 PRELIMINARY; PRT; 112 AA.
AC Q98SR4; 01-JUN-2001 (TEMBLrel. 17, Created)
DT 01-JUN-2001 (TEMBLrel. 17, Last sequence update)
DE 01-JUN-2003 (TEMBLrel. 24, Last annotation update)
OS Cystatin (Fragment).
OC Acipenser sinensis (Chinese sturgeon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Chondrostei; Acipenseriformes; Acipenseridae;
OC Acipenser.
OX NCBI_TaxID=61970;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RA Bai J., Lao H., Ye X., Li Y., Lou J.;
RT "Molecular cloning and sequence analysis of cystatin cDNA from two
species of sturgeons.";
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
DE EMBL; AF334610; AAK16731.1; -.
DR HSSP; P01038; I990.
DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; CY: 1.
DR PROSITE; PS00287; CYSTATIN; 1.

FT NON TER 1 1
SQ SEQUENCE 112 AA; 12231 MW; 48ECBEPED8A08C00 CRC64;

Query Match 29.9%; Score 86; DB 13; Length 112;
Best Local Similarity 42.5%; Pred. No. 0.0013;
Matches 17; Conservative 11; Mismatches 12; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIPLVLRKQVQVTDHLEYNLVNEMQWTTCK 40
Db 29 KASNDWYHRSVSKVQVAVGIXYIVVQMGRTSCRK 68

RESULT 8

Q98SR3 ID Q98SR3 PRELIMINARY; PRT; 112 AA.
AC Q98SR3; 01-JUN-2001 (TEMBLrel. 17, Created)
DT 01-JUN-2001 (TEMBLrel. 17, Last sequence update)
DE 01-JUN-2003 (TEMBLrel. 24, Last annotation update)
OS Cystatin (Fragment).
OC Acipenser schrenckii (Amur sturgeon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Chondrostei; Acipenseriformes; Acipenseridae;
OC Acipenser.
OX NCBI_TaxID=111304;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RA Bai J., Lao H., Ye X., Li Y., Lou J.;
RT "Molecular cloning and sequence analysis of cystatin cDNA from two
species of sturgeons.";
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
DE EMBL; AF334611; AAK16732.1; -.
DR HSSP; P01038; I990.
DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR PROSITE; PS00287; CYSTATIN; 1.
FT NON TER 1 1
SQ SEQUENCE 112 AA; 12231 MW; 48ECBEPED8A08C00 CRC64;

Query Match 29.9%; Score 86; DB 13; Length 112;
Best Local Similarity 42.5%; Pred. No. 0.0013;
Matches 17; Conservative 11; Mismatches 12; Indels 0; Gaps 0;

QY 1 KESDDKXHFRIPLVLRKQVQVTDHLEYNLVNEMQWTTCK 40
Db 29 KASNDWYHRSVSKVQVAVGIXYIVVQMGRTSCRK 68

RESULT 9
Q12700 ID Q12700 PRELIMINARY; PRT; 425 AA.
AC Q12700; 01-NOV-1996 (TEMBLrel. 01, Created)
DT 01-NOV-1996 (TEMBLrel. 01, Last sequence update)
DE 01-JUN-2003 (TEMBLrel. 24, Last annotation update)
OS Exo-1,3-beta-glucanase/1,3-beta-D-glucan glucanohydrolase
(EC 3.2.1.58).
OC Saccharomycetes occidentalis (Yeast) (Schwanniomyces occidentalis).
OC Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
OC Saccharomycetales; Saccharomycetaceae; Debaryomycetes.
OX NCBI_TaxID=27300;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=ATCC 26077;
RX MEDLINE=99154256; PubMed=10029988;
RA Etebani P., del Rey F., Vazquez De Aldana C.R.;
RT "Cloning and characterization of 1,3-beta-glucanase-encoding genes
from non-conventional yeasts.";
RL Yeast 15:91-109(1999).
DR EMBL; Z46871; CAA86951.1; -.
DR HSSP; P29717; 1CZ1.

DR GO:0004338; F:glucan 1,3-beta-glucosidase activity; IEA.
 DR GO:0004553; F:hydrolase activity, hydrolyzing O-glycosyl . . . ; IEA.
 DR GO:0005975; P:carbohydrate metabolism; IEA.
 DR InterPro: IPR001547; Glyco hydro_5.
 DR PROSITE: PS00659; GLYCOSYL_HYDROL_F5; 1.
 DR Glycosidase; Hydrolase.
 SQ SEQUENCE 425 AA; 49127 MW; 57F063ABE2FBF274 CRC64;

Query Match 26.7%; Score 77; DB 3; Length 425;
 Best Local Similarity 27.8%; Pred. No. 0.077;
 Matches 15; Conservative 11; Mismatches 12; Indels 16; Gaps 2;

Qy 5 DKYHFRIFRYLVKQROVTDHLEHNLVEMQWTTCKPPTNC 46
 Db 277 DHNHQVFSAGELQRSIDHITVACNMGWDAKKEVHNNAVGENSA----LTDC 326

RESULT 10
 Q9TY65 PRELIMINARY; PRT; 109 AA.

AC 09TY65; PRELIMINARY; PRT; 109 AA.
 DT 01-MAY-2000 (TrEMBLrel. 13, Created)
 DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
 DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
 DE Antigen maltose binding protein (Fragment).
 OS Onchocerca volvulus.
 OC Eukaryota; Metazoa; Nematoda; Chromadorea; Spirurida; Filarioidea;
 OC Onchocercidae; Onchocerca.
 NCBI_TaxID=6282;

RP SEQUENCE FROM N.A.
 RX MEDLINE=94336252; PubMed=8058358;
 RA Trenholme K.R., Tree T.I., Gillespie A.J., Guderian R., Matzels R.M.,
 Bradley J.E.;
 RT "Heterogeneity of IgG antibody responses to cloned Onchocerca volvulus
 antigens in microfilaria positive individuals from Esmeraldas
 Province, Ecuador.";
 RL Parasite Immunol. 16:201-209(1994).
 DR EMBL: S71364; AAC60509.1; -
 DR GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 DR SMART: SM00043; CY; 1.
 DR PROSITE: PS00287; CYSTATIN; 1.
 FT NON TER 1
 SO SEQUENCE 109 AA; 12701 MW; 3C6B5EF14D8082B8 CRC64;

Query Match 26.6%; Score 76.5; DB 5; Length 109;
 Best Local Similarity 29.4%; Pred. No. 0.022;
 Matches 15; Conservative 15; Mismatches 16; Indels 5; Gaps 1;

Qy 1 KESDDKYHFRIFRYLVKQROVTDHLEHNLVEMQWTTCKPPTNC 46
 Db 25 EQSNDYHMLPILKLVSSQVAGVKYKMDVQVARSCKSSNKKVLTIC 75

RESULT 11
 Q9NH95 PRELIMINARY; PRT; 148 AA.

AC 09NH95; PRELIMINARY; PRT; 148 AA.
 DT 01-OCT-2000 (TrEMBLrel. 15, Created)
 DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
 DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
 DE Le-cystatin.
 OS Litomosoides sigmodontis.
 OC Eukaryota; Metazoa; Nematoda; Chromadorea; Spirurida; Filarioidea;
 OC Onchocercidae; Litomosoides.
 NCBI_TaxID=42156;

RP SEQUENCE FROM N.A.
 RA Pfaff A.W., Hoffmann W.H., Taylor D.W., Schulz-Key H.;
 RT "Characterization and immunological properties of a cysteine protease
 inhibitor of the filarial parasite Litomosoides sigmodontis.";

RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AF229173; AAF35896.1; -
 DR GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 DR SMART: SM00043; CY; 1.
 DR PROSITE: PS00287; CYSTATIN; 1.
 FT CHAIN 25 148
 SQ SEQUENCE 148 AA; 16686 MW; 2950AAB9CA5339C9 CRC64;

Query Match 26.0%; Score 75; DB 5; Length 148;
 Best Local Similarity 32.5%; Pred. No. 0.048;
 Matches 13; Conservative 12; Mismatches 15; Indels 0; Gaps 0;

Qy 1 KESDDKYHFRIFRYLVKQROVTDHLEHNLVEMQWTTCK 40
 Db 63 QQSNDYHMLPILKLVSSQVAGVKYKMDVQVARSCKK 102

RESULT 12
 O16159 PRELIMINARY; PRT; 161 AA.

AC 016159; PRELIMINARY; PRT; 161 AA.
 DT 01-JAN-1998 (TrEMBLrel. 05, Created)
 DT 01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
 DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
 DE Cystatin-type cysteine proteinase inhibitor.
 GN BM-CPI-2.
 OS Brugia malayi (filarial nematode worm).
 OC Eukaryota; Metazoa; Nematoda; Chromadorea; Spirurida; Filarioidea;
 OC Onchocercidae; Brugia.
 NCBI_TaxID=6279;

RP SEQUENCE FROM N.A.
 RA Gregory W.F., Blaxter M.L., Matzels R.M.;
 RL Submitted (JUL-1997) to the EMBL/GenBank/DBJ databases.
 RN [2]
 RP SEQUENCE FROM N.A.
 RA Gregory W.F., Matzels R.M.;
 RT "Two distinct cystatin-type cysteine protease inhibitors from the
 parasitic nematode Brugia malayi.";
 RL Submitted (AUG-1999) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AF015263; AAB69857.1; -
 DR EMBL: AF17193; AAD51086.1; -
 DR GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 DR SMART: SM00043; CY; 1.
 DR PROSITE: PS00287; CYSTATIN; 1.
 SQ SEQUENCE 161 AA; 18406 MW; 8081351EBE226EB5 CRC64;

Query Match 25.7%; Score 74; DB 5; Length 161;
 Best Local Similarity 32.5%; Pred. No. 0.071;
 Matches 13; Conservative 13; Mismatches 14; Indels 0; Gaps 0;

Qy 1 KESDDKYHFRIFRYLVKQROVTDHLEHNLVEMQWTTCK 40
 Db 74 QQSNDYHMLPILKLVSSQVAGVKYKMDVQVARSCKK 113

RESULT 13
 Q80Y72 PRELIMINARY; PRT; 140 AA.

AC 080Y72; PRELIMINARY; PRT; 140 AA.
 DT 01-JUN-2003 (TrEMBLrel. 24, Created)
 DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
 DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
 DE Cystatin-like 1.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 NCBI_TaxID=10090;

RP SEQUENCE FROM N.A.
 RA Pfaff A.W., Hoffmann W.H., Taylor D.W., Schulz-Key H.;
 RT "Characterization and immunological properties of a cysteine protease
 inhibitor of the filarial parasite Litomosoides sigmodontis.";

RP SEQUENCE FROM N.A.
 RC TISSUE=Testicle;
 RX MEDLINE=22388257; PubMed=12477932;
 RA Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heish F.,
 RA Diatchenko L., Mansina K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stepieton M., Soares M.B., Bonaldo M.F., Casavant T.L., Schetz T.E.,
 RA Brownstein W.J., Ueda T.B., Toshiyuki S., Carninci P., Prange C.,
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Holyk S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Rahay J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.,
 RA Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
 RA Krzywinski M.I., Skalska U., Smallus D.E., Scherch A., Schein J.E.,
 RA Jones S.J., Marra M.A.;
 RT "generation and initial analysis of more than 15,000 full-length human
 RT and mouse cDNA sequences."
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testicle;
 RA Strauberg R.;
 RL Submitted (MNR-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL: BC048646; AAH48646.1; -
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR Interpro: IPR000010; Cystatin.
 DR Interpro: IPR003243; Cystatin_C/M.
 DR Pfam: PF00031; cystatin; 1.
 DR ProDom: PD001231; Cystatin_C/M; 1.
 DR SMART: SM00043; CY; 1.
 SQ SEQUENCE 140 AA; 16199 MW; 32633899C4697D80 CRC64;
 Qy
 Db 3 SDDKHYRFRVLYKQROVTDHLEHYHNVEMQTTCKP 43
 59 SDDTYLYQVOKLIGOGWLTGVEYLYTVKIGRTCKKNER 99
 Query Match 25.0%; Score 72; DB 11; Length 140;
 Best Local Similarity 34.1%; Pred. No. 0.11;
 Matches 14; Conservative 14; Mismatches 13; Indels 0; Gaps 0;
 RESULT 14
 ID 08K397 PRELIMINARY; PRT; 146 AA.
 AC 08K397;
 DT 01-OCT-2002 (TREMBlrel. 22, Created)
 DT 01-OCT-2002 (TREMBlrel. 22, Last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
 DE RIKEN cDNA 1110017B11 gene (Fragment).
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Mammary gland;
 RA Strauberg R.;
 RL Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL: BC027680; AAH27680.1; -
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR Interpro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 DR SMART: SM00043; CY; 1.
 FT NON TER 1
 SQ SEQUENCE 146 AA; 16380 MW; 9D77BB9A6063A5C4 CRC64;
 Query Match 24.1%; Score 69.5; DB 11; Length 146;
 Best Local Similarity 27.5%; Pred. No. 0.25;

Matches 14; Conservative 14; Mismatches 16; Indels 7; Gaps 1;
 Qy
 Db 3 SDDKHYRFRVLYKQROVTDHLEHYHNVEMQTTCKP-----ETTCG 46
 60 SDSLTYFRDTRKVDIAKQVLVAGIKYLLTDISTECKTRVSGEHDMLTTC 110
 RESULT 15
 ID 09D1B1 PRELIMINARY; PRT; 149 AA.
 AC 09D1B1;
 DT 01-JUN-2001 (TREMBlrel. 17, Created)
 DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
 DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
 DE 1110017E1IRK protein (Cystatin M/E) (Cystatin N homolog).
 GN 1110017E1IRK OR CST6.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Embryo;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai J., Shimagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 RA Arakawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,
 RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana K.,
 RA Salto T., Okazaki Y., Gojobori T., Bono H., Kasubawa T., Salto R.,
 RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 RA Pleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,
 RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
 RA Schirni L.M., Staudli P., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barh G.,
 RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
 RA Brownstein W.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Monbaerts P.,
 RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
 RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyooka K., Wang K.H., Weltz C., Whitaker C., Wilming L.,
 RA Wyshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohatsu S.,
 RA Hayashizaki Y.;
 RT "Functional annotation of a full-length mouse cDNA collection."
 RL Nature 409:685-690(2001).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=129S6/SvEvTac; TISSUE=Spleen;
 RA Zeeuwen P.L.J.M., van Vlijmen-Willems I.M.J.J., Hendriks W.,
 RA Merks G.F., Schalkwijk J.;
 RT "A mouse cystatin M/E-null mutation."
 RL Submitted (MNR-2002) to the EMBL/GenBank/DBJ databases.
 RN [3]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Medulla oblongata;
 RX MEDLINE=22354683; PubMed=12466851;
 RA The PANTOM Consortium.
 RA the RIKEN Genome Exploration Research Group Phase I & II Team;
 RT "Analysis of the mouse transcriptome based on functional annotation of
 RT 60,770 full-length cDNAs."
 RL Nature 420:563-573(2002).
 DR EMBL: AK003744; BAB22976.1; -
 DR EMBL: AK078116; BAC37132.1; -
 DR HSSP: P01038; ICEW.
 DR MGP: MGI:1920970; Cat6.
 DR GO: GO:0001533; C:cornified envelope; IDA.
 DR GO: GO:0008544; P:epidermal differentiation; IMP.
 DR Interpro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 SQ SEQUENCE 149 AA; 16796 MW; E713B920E0EFC5 CRC64;
 Query Match 24.1%; Score 69.5; DB 11; Length 149;
 Best Local Similarity 27.5%; Pred. No. 0.26;

Matches 14; Conservative 14; Mismatches 16; Indels 7; Gaps 1;

Qy 3 SDDKYHFRIFRVLKVRQVTDHLEHNLNEMQWTTCKP-----ETNG 46
 Db 63 SDSLYFRDTRKVIDAKYQLVAGIKYKYLTDIESTECKRTRVSGEMDLTTC 113

Search completed: March 23, 2004, 17:13:30
 Job time : 31.8494 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:04:13 ; Search time 63.9311 Seconds
(without alignments)
353.554 Million cell updates/sec

Title: US-09-941-314-15

Perfect score: 446
Sequence: 1 QVVKESDCKHFRIFRFLKV.....NCFPSVPAVWPFOYKLINK 80Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0
Maximum DB seq length: 200000000Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

A_GeneSeq_29Jan04:*

1: geneSeqp1980s:*

2: geneSeqp1980s:*

3: geneSeqp2000s:*

4: geneSeqp2001s:*

5: geneSeqp2002s:*

6: geneSeqp2003as:*

7: geneSeqp2003bs:*

8: geneSeqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	446	100.0	80	5	AAU79865 Human cys
2	446	100.0	115	5	AAU79853 Human cys
3	446	100.0	117	5	AAU79854 Human cys
4	446	100.0	137	5	AAU79852 Human cys
5	334	74.9	59	5	AAU79866 Human cys
6	288	64.6	52	5	AAU79864 Human cys
7	273	61.2	48	5	AAU79867 Human cys
8	266	59.6	49	5	AAU79863 Human cys
9	254	57.0	46	5	AAU79860 Human cys
10	199.5	44.7	142	4	AAE02404 Murine cy
11	199.5	44.7	142	4	AAE04433 Mouse cys
12	199.5	44.7	143	6	ADA14374 Mouse spe
13	189	42.4	33	5	AAU79862 Human cys
14	187.5	42.0	142	7	ADD46708 Rat Prote
15	187.5	42.0	142	7	ADD46704 Rat Prote
16	174.5	39.1	92	2	AAW78259 Fragment
17	174.5	39.1	123	2	AAW78258 Fragment
18	174.5	39.1	142	2	AAW78258 Fragment
19	174.5	39.1	142	4	AAE02405 Human cys
20	174.5	39.1	142	4	AAE04434 Human cys
21	174.5	39.1	142	6	ADA57231 Human sec
22	174.5	39.1	142	6	ADA41112 Human sec
23	174.5	39.1	142	7	ADD37980 Human sec
24	174.5	39.1	142	7	ADD46706 Human Pro
25	174.5	39.1	142	7	ADD46706 Human Pro

26	174.5	39.1	142	7	ADD46710 Human Pro
27	169.5	38.0	141	3	AAV96576 Murine cy
28	169.5	38.0	141	4	AAE02403 Murine cy
29	169.5	38.0	141	4	AAE04432 Mouse tes
30	158	35.4	145	5	AAE04315 Alternati
31	158	35.4	145	5	AAU76555 Human Zcy
32	158	35.4	145	6	ABG75917 Human cys
33	156.5	35.1	116	3	AAV81210 Egg white
34	155.5	34.9	116	3	AAV81203 Egg white
35	155.5	34.9	116	3	AAV81212 Egg white
36	154.5	34.6	116	3	AAV81204 Egg white
37	154.5	34.6	116	3	AAV81140 Egg white
38	154.5	34.6	139	2	AAE25342 Chicken e
39	154.5	34.6	139	2	AAE25342 Chicken e
40	152.5	34.2	116	3	AAV81205 Egg white
41	152	34.1	145	4	AAE04323 Human Zcy
42	152	34.1	145	4	AAE04887 Human pro
43	152	34.1	145	5	AAU76578 Human Zcy
44	152	34.1	145	6	ABG75925 Human cys
45	151.5	34.0	120	3	AAV81149 Human mut

ALIGNMENTS

RESULT 1
AAU79865 standard; peptide: 80 AA.
ID AAU79865; AAU79865;
AC AAU79865;
DT 15-JUL-2002 (first entry)
XX
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #13.
XX
XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KW sperm motility; fertilisation; antigenic peptide.
XX
XX Homo sapiens.
OS
XX WO200220567-A2.
PN
XX 14-MAR-2002.
PD
XX 29-AUG-2001; 2001WO-US026668.
XX
XX 01-SEP-2000; 2000US-0230230P.
PR
XX (ZYMO) ZYMOGENETICS INC.
PA
XX Holloway JL, Gao Z, Bishop PD;
PI
XX WPI; 2002-383044/41.
DR
XX Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
XX Claim 2; Page 98; 100pp; English.
PS
XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large

CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (1) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (1) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
 XX

XX Sequence 80 AA;

Query Match 100.0%; Score 446; DB 5; Length 80;

Best Local Similarity 100.0%; Pred. No. 6.8e-46;
 Matches 80; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QYNKESDDKXHFRIFFVLKQVQRYTDHLEHNLNEMQWTTCKQKETTNCVQREHLKQV 60
 DB 1 QYNKESDDKXHFRIFFVLKQVQRYTDHLEHNLNEMQWTTCKQKETTNCVQREHLKQV 60

QY 61 NCFPSVFAVPWFPEQYKILNK 80
 DB 61 NCFPSVFAVPWFPEQYKILNK 80

RESULT 2

AAU79853 ID AAU79853 standard; protein; 115 AA.

AC AAU79853;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8) antigenic fragment #1.

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KW spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic fragment.
 XX

OS Homo sapiens.

PN W0200220567-A2.

PD 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

PR 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

DR WPI; 2002-383044/41.

XX Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.
 XX

XX Claim 2; Page 94; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (1). (1) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis, modulating seminal
 CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(1) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large

CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (1) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (1) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic fragment of human cystatin-8
 CC (Zcys8)
 XX

XX Sequence 115 AA;

Query Match 100.0%; Score 446; DB 5; Length 115;

Best Local Similarity 100.0%; Pred. No. 1e-45;
 Matches 80; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QYNKESDDKXHFRIFFVLKQVQRYTDHLEHNLNEMQWTTCKQKETTNCVQREHLKQV 60
 DB 31 QYNKESDDKXHFRIFFVLKQVQRYTDHLEHNLNEMQWTTCKQKETTNCVQREHLKQV 90

QY 61 NCFPSVFAVPWFPEQYKILNK 80
 DB 91 NCFPSVFAVPWFPEQYKILNK 110

RESULT 3

AAU79854 ID AAU79854 standard; protein; 117 AA.

AC AAU79854;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8) antigenic fragment #2.

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KW spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic fragment.
 XX

OS Homo sapiens.

PN W0200220567-A2.

PD 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

PR 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

DR WPI; 2002-383044/41.

XX Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.
 XX

XX Claim 2; Page 94-95; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (1). (1) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis, modulating seminal
 CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(1) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the

CC presence of Zcy88. The antibodies are also useful to isolate large
CC quantities of Zcy88 protein and DNA sequences that encode Zcy88 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcy88 gene in a biological sample and Zcy88
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcy88 gene like aneuploidy, gene
CC copy number changes, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcy88 gene.
CC This sequence represents an antigenic fragment of human cystatin-8
CC (Zcy88)

CC Sequence 117 AA:

Query Match 100.0%; Score 446; DB 5; Length 117;
Best Local Similarity 100.0%; Pred. No. 1.1e-45;
Matches 80; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QYNKESDDKXHFRIFRVLKXQROVTDHLEYNLVEMQWTCQKPEETNCVPOREHLKOV 60
DB 33 QYNKESDDKXHFRIFRVLKXQROVTDHLEYNLVEMQWTCQKPEETNCVPOREHLKOV 92
QY 61 NCFESVFAVPWFQYKILNK 80
DB 93 NCFESVFAVPWFQYKILNK 112

RESULT 4

AAU79852
ID AAU79852 standard; protein; 137 AA.

AC AAU79852;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcy88).

XX Cystatin-8; Zcy88; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KW sperm motility; fertilisation.

XX Homo sapiens.

XX WO200220567-A2.

XX 14-MAR-2002.

XX 29-AUG-2001; 2001WO-US026868.

XX 01-SEP-2000; 2000US-0230230P.

XX (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

XX WPI; 2002-383044/41.

DR N-PSDB; ABK49522.

XX Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.

XX Claim 2; Page 93-94; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcy88)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcy88 is useful as research reagent for characterising sites
CC of interaction between Zcy88 and its receptor. Zcy88 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in

CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcy88. The antibodies are also useful to isolate large
CC quantities of Zcy88 protein and DNA sequences that encode Zcy88 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcy88 gene in a biological sample and Zcy88
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcy88 gene like aneuploidy, gene
CC copy number changes, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcy88 gene.
CC This is the amino acid sequence of human cystatin-8 (Zcy88)

CC Sequence 137 AA:

Query Match 100.0%; Score 446; DB 5; Length 137;
Best Local Similarity 100.0%; Pred. No. 1.3e-45;
Matches 80; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QYNKESDDKXHFRIFRVLKXQROVTDHLEYNLVEMQWTCQKPEETNCVPOREHLKOV 60
DB 53 QYNKESDDKXHFRIFRVLKXQROVTDHLEYNLVEMQWTCQKPEETNCVPOREHLKOV 112
QY 61 NCFESVFAVPWFQYKILNK 80
DB 113 NCFESVFAVPWFQYKILNK 132

RESULT 5

AAU79866
ID AAU79866 standard; peptide; 59 AA.

AC AAU79866;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcy88) antigenic fragment #14.

XX Cystatin-8; Zcy88; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KW sperm motility; fertilisation; antigenic peptide.

XX Homo sapiens.

XX WO200220567-A2.

XX 14-MAR-2002.

XX 29-AUG-2001; 2001WO-US026868.

XX 01-SEP-2000; 2000US-0230230P.

XX (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

XX WPI; 2002-383044/41.

XX Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.

XX Claim 2; Page 99; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcy88)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcy88 is useful as research reagent for characterising sites
CC of interaction between Zcy88 and its receptor. Zcy88 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in

CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcy88. The antibodies are also useful to isolate large
 CC quantities of Zcy88 protein and DNA sequences that encode Zcy88 genes.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcy88 gene in a biological sample and Zcy88
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcy88 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcy88 gene.
 CC This sequence represents an antigenic peptide of human cystatin-8 (Zcy88)
 CC
 CC Sequence 59 AA:

Query Match 74.9%; Score 334; DB 5; Length 59;
 Best Local Similarity 100.0%; Pred. No. 1.4e-32;
 Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 22 RQVTDHLEHNLVNMQWTTCKPPTNCVPOERELHKQVNCFFSVFAPVPMFEQYKINK 80
 DB 1 RQVTDHLEHNLVNMQWTTCKPPTNCVPOERELHKQVNCFFSVFAPVPMFEQYKINK 59

RESULT 6
 ID AAU79864 standard; peptide; 52 AA.
 AC AAU79864;

DT 15-JUL-2002 (first entry)
 DE Human cystatin-8 (Zcy88) antigenic fragment #12.

KM Cystatin-8; Zcy88; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic peptide.

OS Homo sapiens.

WO200220567-A2.

PD 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

PR 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

DR WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.

PS Claim 2; Page 98; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcy88)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis, modulating seminal
 CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcy88 is useful as research reagent for characterising sites
 CC of interaction between Zcy88 and its receptor. Zcy88 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcy88. The antibodies are also useful to isolate large
 CC quantities of Zcy88 protein and DNA sequences that encode Zcy88 genes.

CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcy88 gene in a biological sample and Zcy88
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcy88 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcy88 gene.
 CC This sequence represents an antigenic peptide of human cystatin-8 (Zcy88)
 CC
 CC Sequence 52 AA:

Query Match 64.6%; Score 288; DB 5; Length 52;
 Best Local Similarity 100.0%; Pred. No. 4.3e-27;
 Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 4 KESDDKXHFRIFFVLKVRQVTDHLEHNLVNMQWTTCKPPTNCVPOERE 55
 DB 1 KESDDKXHFRIFFVLKVRQVTDHLEHNLVNMQWTTCKPPTNCVPOERE 52

RESULT 7
 ID AAU79867 standard; peptide; 48 AA.
 AC AAU79867;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcy88) antigenic fragment #15.

KM Cystatin-8; Zcy88; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic peptide.

OS Homo sapiens.

WO200220567-A2.

PD 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

PR 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

DR WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.

PS Claim 2; Page 99; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcy88)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis, modulating seminal
 CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcy88 is useful as research reagent for characterising sites
 CC of interaction between Zcy88 and its receptor. Zcy88 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcy88. The antibodies are also useful to isolate large
 CC quantities of Zcy88 protein and DNA sequences that encode Zcy88 genes.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcy88 gene in a biological sample and Zcy88
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's

CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX Sequence 48 AA;
SQ
Query Match 61.2%; Score 273; DB 5; Length 48;
Best Local Similarity 100.0%; Pred. No. 2.5e-25;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 33 NVEWMTTCCKPFTTNCVPERELHKVNCFFSVFAVPMFEQYKLNK 80
1 NVEWMTTCCKPFTTNCVPERELHKVNCFFSVFAVPMFEQYKLNK 48
Db
RESULT 8
AAU79863
ID AAU79863 standard; peptide; 49 AA.
XX
AC AAU79863;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #11.
XX
KW Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KW spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KW sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.
XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026868.
XX
PR 01-SEP-2000; 2000US-0230230P.
XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
PT WPI; 2002-383044/41.
XX
PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 97-98; 100pp; English.
XX
CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)

XX
SQ Sequence 49 AA;
XX
Query Match 59.6%; Score 266; DB 5; Length 49;
Best Local Similarity 100.0%; Pred. No. 1.8e-24;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 QYNKESDDKXHFRIFFVLKXVROVTDHLBYHNLNVEWMTTCCKPFTTN 48
2 QYNKESDDKXHFRIFFVLKXVROVTDHLBYHNLNVEWMTTCCKPFTTN 49
Db
RESULT 9
AAU79860
ID AAU79860 standard; peptide; 46 AA.
XX
AC AAU79860;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #8.
XX
KW Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KW spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KW sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.
XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026868.
XX
PR 01-SEP-2000; 2000US-0230230P.
XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
PT WPI; 2002-383044/41.
XX
PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 97; 100pp; English.
XX
CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX
SQ Sequence 46 AA;
XX
Query Match 57.0%; Score 254; DB 5; Length 46;

Best Local Similarity 100.0%; Pred. No. 4.6e-23;
Matches 46; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 3 NKESDDKYHFRIFRVLVKQROVTDHLEHNLNVEQMOTTCQKPEPTN 48
DB 1 NKESDDKYHFRIFRVLVKQROVTDHLEHNLNVEQMOTTCQKPEPTN 46

RESULT 10

ID AAE02404 standard; protein; 142 AA.

XX AC AAE02404;

XX DT 10-AUG-2001 (first entry)

XX DE Murine cystatin-related epididymal specific protein (CRS).

XX KM Murine; cystatin T; zcy3; cystatin-related epididymal specific protein;
XX CRS; inhibitor; cysteine proteinase; male reproductive tissue; testis;
XX spermatogenesis; therapy; reproductive disorder.

XX OS Mus musculus.

XX PN US6235708-B1.

XX PD 22-MAY-2001.

XX PF 01-NOV-1999; 99US-00431480.

XX PR 20-NOV-1998; 98US-0109217P.

XX PR 28-SEP-1999; 99US-0156382P.

XX PA (ZYMO) ZYMOGENETICS INC.

XX PI Hollaway JL, Feldhaus AL;

XX DR WPI; 2001-342846/36.

XX PT Cystatin T polypeptides are useful for modulating spermatogenesis and
XX studying, diagnosing and treating reproductive disorders.

XX PS Disclosure; Col 45-46; 32pp; English.

XX CC The present invention relates to cystatin T (also known as zcy3) DNA and
XX protein sequences. Cystatin T is testis specific and is homologous to
XX cystatin-related epididymal specific gene (CRS) and type 2 cystatins.

XX CC Cystatin inhibit cysteine proteinases and are found with male
XX reproductive tissues and secretions. Cystatin T sequence is useful for
XX modulating spermatogenesis and studying, diagnosing and treating
XX reproductive disorders. The present sequence is murine cystatin-related
XX epididymal specific (CRS) protein

XX SQ Sequence 142 AA;

Query Match 44.7%; Score 199.5; DB 4; Length 142;

Best Local Similarity 42.2%; Pred. No. 6.6e-16;
Matches 35; Conservative 25; Mismatches 20; Indels 3; Gaps 2;

QY 1 QYNKESDDKYHFRIFRVLVKQROVTDHLEHNLNVEQMOTTCQKPEPTN 57
DB 55 EYNKESDDKYHFRIFRVLVKQROVTDHLEHNLNVEQMOTTCQKPEPTN 114

QY 58 KOVNCFSVPFVPMFEQYKILNK 80
DB 115 KKMSCSFVGLPMPNGEFNLISK 137

RESULT 11

ID AAE04433 standard; protein; 142 AA.

XX AC AAE04433;

XX DT 06-NOV-2003 (first entry)

XX DE Mouse spermatogenesis related protein sequence S9Q ID NO:116.
XX mouse; spermatogenesis; gene cluster; mutagenicity;
XX reproductive toxicity; reproductive capacity; mutation;

XX OS Mus musculus.

XX PN US6245529-B1.

XX PD 12-JUN-2001.

XX PF 17-JUL-2000; 2000US-00617302.

XX PR 20-NOV-1998; 98US-0109217P.

XX PR 28-SEP-1999; 99US-0156382P.

XX DT 04-SEP-2001 (first entry)

XX DE Mouse cystatin-related epididymal specific (CRS) protein.

XX KM Mouse; cystatin T; zcy3; testis specific; spermatogenesis modulator;
XX cystatin-related epididymal specific gene; CRS; gene therapy;
XX sperm production; antifertility.

XX OS Mus musculus.

XX PN US6245529-B1.

XX PD 12-JUN-2001.

XX PF 17-JUL-2000; 2000US-00617302.

XX PR 20-NOV-1998; 98US-0109217P.

XX PR 28-SEP-1999; 99US-0156382P.

XX PR 01-NOV-1999; 99US-00431480.

XX PA (ZYMO) ZYMOGENETICS INC.

XX PI Hollaway JL, Feldhaus AL;

XX DR WPI; 2001-407271/43.

XX PT New polynucleotides encoding testis-specific cystatin-like protein
XX cystatin T, useful in gene therapy for modulating cystatin T activity,
XX particularly for modulating spermatogenesis, or enhancing sperm
XX production or fertility.

XX PS Disclosure; Col 47-48; 33pp; English.

XX CC The present sequence is mouse cystatin-related epididymal specific (CRS)
XX protein which is homologous to mouse testis specific cystatin T (also
XX known as zcy3). The cystatin T polynucleotide is useful in gene therapy
XX applications, where it is desired to increase or inhibit cystatin T
XX activity. It is also useful for producing cystatin T polypeptide, as well
XX as for detecting the expression of a cystatin T gene in a biological
XX sample. The cystatin T is useful for modulating spermatogenesis, and may
XX be used to study or modulate that function in vitro or in vivo
XX systems. In particular, it is also useful for enhancing sperm production,
XX increasing the number of viable sperm in a sample, or enhancing
XX fertilisation

XX SQ Sequence 142 AA;

Query Match 44.7%; Score 199.5; DB 4; Length 142;

Best Local Similarity 42.2%; Pred. No. 6.6e-16;
Matches 35; Conservative 25; Mismatches 20; Indels 3; Gaps 2;

QY 1 QYNKESDDKYHFRIFRVLVKQROVTDHLEHNLNVEQMOTTCQKPEPTN 57
DB 55 EYNKESDDKYHFRIFRVLVKQROVTDHLEHNLNVEQMOTTCQKPEPTN 114

QY 58 KOVNCFSVPFVPMFEQYKILNK 80
DB 115 KKMSCSFVGLPMPNGEFNLISK 137

RESULT 12

ID ADA14374 standard; protein; 143 AA.

XX AC ADA14374;

XX DT 06-NOV-2003 (first entry)

XX DE Mouse spermatogenesis related protein sequence S9Q ID NO:116.
XX mouse; spermatogenesis; gene cluster; mutagenicity;
XX reproductive toxicity; reproductive capacity; mutation;

XX OS Mus musculus.

XX PN US6245529-B1.

XX PD 12-JUN-2001.

XX PF 17-JUL-2000; 2000US-00617302.

XX PR 20-NOV-1998; 98US-0109217P.

XX PR 28-SEP-1999; 99US-0156382P.

XX PR 01-NOV-1999; 99US-00431480.

XX PA (ZYMO) ZYMOGENETICS INC.

XX PI Hollaway JL, Feldhaus AL;

XX DR WPI; 2001-407271/43.

XX PT New polynucleotides encoding testis-specific cystatin-like protein
XX cystatin T, useful in gene therapy for modulating cystatin T activity,
XX particularly for modulating spermatogenesis, or enhancing sperm
XX production or fertility.

KW	expression abnormality; human male sterility associated gene; scot-t;
KM	succinyl CoA:3-oxo acid CoA transferase; human male sterility.
XX	
OS	Mus musculus.
XX	
PN	WO2003068969-A1.
XX	
PD	21-AUG-2003.
XX	
PF	14-FEB-2003; 2003WO-JP001572.
XX	
PR	14-FEB-2002; 2002JP-00036649.
PR	27-DEC-2002; 2002JP-00381241.
XX	
PA	(NISC-) JAPAN SCI & TECHNOLOGY CORP.
XX	
PI	Nishimune Y, Tanaka H, Nozaki M;
XX	
DR	WPI: 2003-671663/63.
XX	
PT	N-PSDB; ADA14477.
XX	
PT	Mouse spermatogenesis gene cluster and human male sterility associated
PT	genes, useful for diagnosis of human male sterility and testing
PT	substances for reproductive toxicity.
XX	
PS	Claim 6; Page 155; 262pp; Japanese.

The present invention describes a mouse spermatogenesis gene cluster containing 89 genes (see the cDNA sequences of ADAl1442 to ADAl14530). Also described: (1) a cDNA library containing cDNA encoding the gene cluster; (2) oligonucleotides of 10-99 bases containing partial sequences of genes of the cluster; (3) microarrays containing these oligonucleotides; (4) primer sets for PCR amplification of cDNA or genomic DNA for genes of the cluster; (5) polypeptides encoded by the genes in the cluster; (6) antibodies to these polypeptides; (7) a method for testing the mutagenicity and reproductive toxicity of a test substance, and assessment of the reproductive capacity of a test individual, by analysis of mutation and expression abnormalities of genes in the cluster; (8) polynucleotides which are mutations of the human male sterility associated gene scot-t (nucinyl CoA:3-oxo acid CoA transferase gene) having one or more of the following specific mutations: T128C, T870G, C1071T, T1667G; (9) oligonucleotides containing partial sequences of human scot-t including one or more of the above mutations; (10) primer sets for PCR amplification of mRNA derived from the mutant scot-t gene; (11) polypeptides encoded by human scot-t gene and having one or more of the mutations Leu38Pro, Leu285Arg, Thr352Met; (12) polynucleotides which are mutations of the human male sterility associated gene protamine2, having C248T; (13) polypeptides encoded by this mutant protamine2 gene; (14) antibodies (including labelled antibodies) to these polypeptides; (15) a method for determining the presence or absence of these mutant polynucleotides in genomic DNA; (16) diagnosis of human male sterility using this method; (17) DNA probes containing sequences of these mutant polynucleotides; and (18) DNA chip containing sequences derived from these mutant polynucleotides. The methods of the present invention can be used in the diagnosis of human male sterility; testing the reproductive toxicity and mutagenicity of substances; and assessing the reproductive capacity of individuals. The present sequence represents a mouse spermatogenesis related protein, which is encoded by a cDNA sequence from the mouse spermatogenesis gene cluster.

[illegible]

ID	AAU79862 standard; peptide; 33 AA.
AC	AAU79862;
DT	15-JUL-2002 (first entry)
DE	Human cystatin-8 (Zcys8) antigenic fragment #10.
KW	Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis; spermatogenesis; seminal fluid viscosity; cryopreserved sperm; sperm motility; fertilisation; antigenic peptide.
OS	Homo sapiens.
PN	WO200220567-A2.
PD	14-MAR-2002.
PF	29-AUG-2001; 2001WO-US026868.
PR	01-SEP-2000; 2000US-0230230P.
PA	(ZYMO) ZYMOGENETICS INC.
PI	Holloway JL, Gao Z, Bishop PD;
DR	WPI; 2002-383044/41.
PT	Novel isolated mammalian cystatin-8 polypeptide useful for promoting spermatogenesis, and inhibiting cancer procoagulant protein which leads to inhibition of thrombotic events associated with cancer.
PS	Claim 2; Page 97; 100pp; English.
XX	The invention describes an isolated mammalian cystatin-8 (Zcys8) polypeptide (I). (II) is useful for: inhibiting cancer procoagulant protein in an individual and thus inhibiting the thrombotic events associated with cancer; promoting spermatogenesis, modulating seminal fluid viscosity, enhancing viability of cryopreserved sperm, sperm motility and fertilisation; and as antigenic peptides to generate antibodies. Zcys8 is useful as research reagent for characterising sites of interaction between Zcys8 and its receptor. Zcys8 is useful in enhancing fertilisation during assisted reproduction in humans and in animals. Anti-(I) antibodies are useful to screen biological samples like blood, urine, saliva, tissue biopsy and autopsy material in vitro for the presence of Zcys8. The antibodies are also useful to isolate large quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes. The polynucleotide encoding (I) is useful to detect and to localise the expression of a Zcys8 gene in a biological sample and Zcys8 oligonucleotide probes are useful for in vivo diagnosis. The polynucleotide encoding (I) is useful in determining whether a subject's chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene copy number changes, insertions, deletions, restriction site changes and rearrangements and genetic alterations that inactivate the Zcys8 gene. This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
Seq	Sequence 33 AA;
Qy	Best Match 42.4%; Score 189; DB 5; Length 33; Best Local Similarity 100.0%; Pred. No. 2.1e-15; Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0.
Db	23 QVTDHLEHYHLNVEMQWTTCCCKPERTNNVCYPQBRRE 55 1 QVTDHLEHYHLNVEMQWTTCCCKPERTNNVCYPQBRRE 33

```

Query Match      42.4%; Score 189; DB 5; Length 33;
Best Local Similarity 100.0%; Pred. NO. 2.1e-15;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0.

QY      23 QVTDHLEHYHNLNVEWMTTCQKPEFTNNCPQRE 55
          |||||
Db       1 QVTDHLEHYHNLNVEWMTTCQKPEFTNNCPQRE 33

RESULT 14
ADD46708

```

ID	ADD46708	standard; protein; 142 AA.
XX		
AC	ADD46708;	
XX		
DT	29-JAN-2004	(first entry)
XX		
DE	Rat Protein AAC36317, SEQ ID NO 12393.	
XX		
KW	Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury; chronic constriction injury; CCI, spared nerve injury; SNL; Chung.	
XX		
OS	Rattus norvegicus.	
XX		
PN	WO2003016475-A2.	
XX		
PD	27-FEB-2003.	
XX		
PF	14-AUG-2002; 2002WO-US025765.	
XX		
PR	14-AUG-2001; 2001US-0312147P.	
PR	01-NOV-2001; 2001US-0346382P.	
PR	26-NOV-2001; 2001US-0333347P.	
XX		
PA	(GENO) GEN HOSPITAL CORP.	
PA	(FARB) BAYER AG.	
XX		
PI	Woolf C, D'Urso D, Befort K, Costigan M;	
XX		
DR	WPI; 2003-268312/26.	
XX		
DR	GENBANK; AAC36317.	
XX		
PT	New composition comprising two or more isolated polypeptides, useful for preparing a medicament for treating pain in an animal.	
XX		
PS	Claim 1; Page; 1017pp; English.	
XX		
CC	The invention discloses a composition comprising two or more isolated rat	
CC	or human polynucleotides or a polynucleotide which represents a fragment,	
CC	derivative or allelic variation of the nucleic acid sequence. Also	
CC	claimed are a vector comprising the novel polynucleotide, a host cell	
CC	comprising the vector, a method for identifying a nucleotide sequence	
CC	which is differentially regulated in an animal subjected to pain and a	
CC	kit to perform the method, an array, a method for identifying an agent	
CC	that increases or decreases the expression of the polynucleotide sequence	
CC	that is differentially expressed in neuronal tissue of a first animal	
CC	subjected to pain, a method for identifying a compound which regulates	
CC	the expression of a polynucleotide sequence which is differentially	
CC	expressed in an animal subjected to pain, a method for identifying a	
CC	compound that regulates the activity of one or more of the	
CC	polynucleotides, a method for producing a pharmaceutical composition, a	
CC	method for identifying a compound or small molecule that regulates the	
CC	activity in an animal of one or more of the polypeptides given in the	
CC	specification, a method for identifying a compound useful in treating	
CC	pain and a pharmaceutical composition comprising the one or more	
CC	polypeptides or their antihodies. The polynucleotide or the compound that	
CC	modulates its activity is useful for preparing a medicament for treating	
CC	pain (e.g. spinal segmental nerve injury (Chung), chronic constriction	
CC	injury (CCI) and spared nerve injury (SNL)) in an animal (e.g. gene	
CC	therapy). The sequence presented is a rat protein (shown in Table 2 of	
CC	the specification) which is differentially expressed during pain. Note:	
CC	The sequence data for this patent did not form part of the printed	
CC	specification, but was obtained in electronic form directly from WIPO at	
CC	ftp.wipo.int/pub/published_pct_sequences.	
XX		
XX	Sequence 142 AA;	
SO		
Query Match	42.0%;	Score 187.5; DB 7; Length 142;
Best Local Similarity	41.0%;	Pred. No. 1.8e-14;
Matches 34;	Conservative 23;	Mismatches 23; Indels 3; Gaps 2
0Y	1 QYNKESDDKHFRRIRRVLVKVRQGVLDHLEHNLVEMQWTTQCKP--ETTNVCYQER-ELH 57	
DB	55 EYNGKSEKTYFLPLDKTLLHATVLTQIDRMEYHLDVQISRNCPLNNYENCIPQKNPKLE 114	

0y	58	KOANCEFSYEAWEPEOYILNK	80
			::: :
Db	115	KKLSGSPYVGAHPMNGEPDLISK	137
	RESULT 15		
XX	ADD46704		
ID	ADD46704	standard; protein; 142 AA.	
XX	ADD46704;		
XX	29-JAN-2004	(first entry)	
XX			
DE	Rat Protein AAC6317, SEQ ID NO 12389.		
XX			
XX	Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury;		
XX	chronic constriction injury; CCI; spared nerve injury; SNI; Chung.		
OS	Rattus norvegicus.		
XX			
XX	MO2003016475-A2.		
XX			
PD	27-FEB-2003.		
XX			
PF	14-AUG-2002; 2002MO-US025765.		
XX			
PR	14-AUG-2001; 2001US-0312147P.		
PR	01-NOV-2001; 2001US-0346382P.		
XX	26-NOV-2001; 2001US-0333347P.		
XX			
PA	(GENO) GEN HOSPITAL CORP.		
PA	(FARB) BAYER AG.		
XX			
PI	Woolf C, D'urso D, Befort K, Costigan M;		
XX			
DR	WPI; 2003-268312/26.		
DR	GENEBANK; AAC6317.		
PT			
XX	New composition comprising two or more isolated polypeptides, useful for		
XX	preparing a medicament for treating pain in an animal.		
XX			
PS	Claim 1; Page; 1017pp; English.		
XX			
CC	The invention discloses a composition comprising two or more isolated rat		
CC	or human polynucleotides or a polynucleotide which represents a fragment,		
CC	derivative or allelic variation of the nucleic acid sequence. Also		
CC	claimed are a vector comprising the novel polynucleotide, a host cell		
CC	comprising the vector, a method for identifying a nucleotide sequence		
CC	which is differentially regulated in an animal subjected to pain and a		
CC	kit to perform the method, an array, a method for identifying an agent		
CC	that increases or decreases the expression of the polynucleotide sequence		
CC	that is differentially expressed in neuronal tissue of a first animal		
CC	subjected to pain, a method for identifying a compound which regulates		
CC	the expression of a polynucleotide sequence which is differentially		
CC	expressed in an animal subjected to pain, a method for identifying a		
CC	compound that regulates the activity of one or more of the		
CC	polynucleotides, a method for producing a pharmaceutical composition, a		
CC	method for identifying a compound or small molecule that regulates the		
CC	activity in an animal of one or more of the polypeptides given in the		
CC	specification, a method for identifying a compound useful in treating		
CC	pain and a pharmaceutical composition comprising the one or more		
CC	polypeptides or their antibodies. The polynucleotide or the compound that		
CC	modulates its activity is useful for preparing a medicament for treating		
CC	pain (e.g. spinal segmental nerve injury (Chung), chronic constriction		
CC	injury (CCI) and spared nerve injury (SNI)) in an animal (e.g. gene		
CC	therapy). The sequence presented is a rat protein (shown in Table 2 of		
CC	the specification) which is differentially expressed during pain. Note:		
CC	The sequence data for this patent did not form part of the printed		
CC	specification, but was obtained in electronic form directly from WIPO at		
XX	ftp.wipo.int/pub/published_pct_sequences.		
XX			
90	Sequence 142 AA;		

; . PRIOR FILING DATE: 1999-11-01
; . PRIOR APPLICATION NUMBER: 60/109 317

PRIOR APPLICATION NUMBER: 60/109,217

PRIOR FILING DATE: 1998-11-20
PRIOR APPLICATION NUMBER: 60/156,382
PRIOR FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 3
LENGTH: 142
TYPE: PRT
ORGANISM: Mus musculus
US-09-617-302-3

Query Match 44.7%; Score 199.5; DB 3; Length 142;
Best Local Similarity 42.2%; Pred. No. 2e-18;
Matches 35; Conservative 25; Mismatches 20; Indels 3; Gaps 2;

QY 1 QYNKESDQKXFRFRVLAKVQROYTDHLEHNLVEMQWTTQCKR--CVPER-ELH 57
DB 55 EYNKESDQKXFRVLAKVQROYTDHLEHNLVEMQWTTQCKR--CVPER-ELH 114
QY 58 KQVNCPSVFAVPMFEOYKILNK 80
DB 115 KQVNCPSVFAVPMFEOYKILNK 137

RESULT 3
US-09-431-480-4
Sequence 4, Application US/09431480
Patent No. 6235708
GENERAL INFORMATION:
APPLICANT: Hollaway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72
CURRENT APPLICATION NUMBER: US/09/431,480
CURRENT FILING DATE: 1999-11-01
EARLIER APPLICATION NUMBER: 60/109,217
EARLIER FILING DATE: 1998-11-20
EARLIER APPLICATION NUMBER: 60/156,382
EARLIER FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 4
LENGTH: 142
TYPE: PRT
ORGANISM: Homo sapiens
US-09-431-480-4

Query Match 39.1%; Score 174.5; DB 3; Length 142;
Best Local Similarity 42.2%; Pred. No. 3.8e-15;
Matches 35; Conservative 22; Mismatches 23; Indels 3; Gaps 2;

QY 1 QYNKESDQKXFRFRVLAKVQROYTDHLEHNLVEMQWTTQCKR--CVPER-ELH 57
DB 55 EYNKESDQKXFRVLAKVQROYTDHLEHNLVEMQWTTQCKR--CVPER-ELH 114
QY 58 KQVNCPSVFAVPMFEOYKILNK 80
DB 115 KQVNCPSVFAVPMFEOYKILNK 137

RESULT 4
US-09-617-302-4
Sequence 4, Application US/09617302
Patent No. 6245529
GENERAL INFORMATION:
APPLICANT: Hollaway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72 C1
CURRENT APPLICATION NUMBER: US/09/617,302
CURRENT FILING DATE: 2000-07-17
PRIOR APPLICATION NUMBER: 09/431,480
PRIOR FILING DATE: 1999-11-01

PRIOR APPLICATION NUMBER: 60/109,217
PRIOR FILING DATE: 1998-11-20
PRIOR APPLICATION NUMBER: 60/156,382
PRIOR FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 4
LENGTH: 142
TYPE: PRT
ORGANISM: Homo sapiens
US-09-617-302-4

Query Match 39.1%; Score 174.5; DB 3; Length 142;
Best Local Similarity 42.2%; Pred. No. 1.7e-14;
Matches 35; Conservative 22; Mismatches 23; Indels 3; Gaps 2;

QY 1 QYNKESDQKXFRFRVLAKVQROYTDHLEHNLVEMQWTTQCKR--CVPER-ELH 57
DB 55 EYNKESDQKXFRVLAKVQROYTDHLEHNLVEMQWTTQCKR--CVPER-ELH 114
QY 58 KQVNCPSVFAVPMFEOYKILNK 80
DB 115 KQVNCPSVFAVPMFEOYKILNK 137

RESULT 5
US-09-431-480-2
Sequence 2, Application US/09431480
Patent No. 6235708
GENERAL INFORMATION:
APPLICANT: Hollaway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72
CURRENT APPLICATION NUMBER: US/09/431,480
CURRENT FILING DATE: 1999-11-01
EARLIER APPLICATION NUMBER: 60/109,217
EARLIER FILING DATE: 1998-11-20
EARLIER APPLICATION NUMBER: 60/156,382
EARLIER FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 2
LENGTH: 141
TYPE: PRT
ORGANISM: Homo sapiens
US-09-431-480-2

Query Match 38.0%; Score 169.5; DB 3; Length 141;
Best Local Similarity 42.2%; Pred. No. 1.7e-14;
Matches 35; Conservative 17; Mismatches 28; Indels 3; Gaps 2;

QY 1 QYNKESDQKXFRFRVLAKVQROYTDHLEHNLVEMQWTTQCKR--CVPER-ELH 57
DB 54 EYNKESDQKXFRVLAKVQROYTDHLEHNLVEMQWTTQCKR--CVPER-ELH 113
QY 58 KQVNCPSVFAVPMFEOYKILNK 80
DB 114 KQVNCPSVFAVPMFEOYKILNK 136

RESULT 6
US-09-617-302-2
Sequence 2, Application US/09617302
Patent No. 6245529
GENERAL INFORMATION:
APPLICANT: Hollaway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72 C1
CURRENT APPLICATION NUMBER: US/09/617,302
CURRENT FILING DATE: 2000-07-17
PRIOR APPLICATION NUMBER: 09/431,480

```

; PRIOR FILING DATE: 1999-11-01
; PRIOR APPLICATION NUMBER: 60/109,217
; PRIOR FILING DATE: 1998-11-20
; PRIOR APPLICATION NUMBER: 60/156,382
; PRIOR FILING DATE: 1999-09-28
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO: 2
; LENGTH: 141
; TYPE: PR1
; ORGANISM: Homo sapiens
; OS-09-617-302-2

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Query Match	38.0%	Score 169.5;	DB 3,	Length 141;
Best Local Similarity	42.2%	Pred. No. 1.7e-14;		
Matches	35;	Conservative	17;	Mismatches 26;
				Indels 3;
				Gaps 2;

OY 1 QNNESDDKHHFRIFRVLKQRQVTLHLEXLNVMOMTTCOK--PETTNVC-PQEREIH S7
 :|||:::||:::||::|||::|::|::|::|::|::|:
Db 54 EYNRASNDLYNFRRVDILKSQEQTITSLSEYLEYEVNARTMCKKIAGDNENCLFQQDPRMK I13

```
QY      58 KQVNCFFSVFAVPWFEEQYKILNK 80
      ||||| : || : |||
Db     114 KMVFCIFIVSSKPKWKFELKMLKK 136
```

```

RESULT 7
US-09-775-932-16
; Sequence 16 Application US/09775932
; Patent No. 6534477
; GENERAL INFORMATION:
; APPLICANT: University of British Columbia
; TITLE OF INVENTION: Production and use of Modified Cystatins
; FILE REFERENCE: 58069
; CURRENT APPLICATION NUMBER: US/09/775,932
; CURRENT FILING DATE: 2001-02-02
; PRIOR APPLICATION NUMBER: CA99/00717
; PRIOR FILING DATE: 1999-08-05
; PRIOR APPLICATION NUMBER: 60/095,503
; PRIOR FILING DATE: 1998-08-05
; NUMBER OF SEQ ID NOS: 32
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 16
; LENGTH: 116
; TYPE: PRF
; ORGANISM: Gallus sp.
US-09-775-932-16

```

Query Match	34.6%	Score 154.5;	DB 4	Length 116;
Best Local Similarity	38.3%	Pred. No. 1.2e-12;		
Matches 31; Conservative	17;	Mismatches 30;	Indels 3;	Gaps 2;

DQ 1 QYNKSSDDKHFRIFRFLVAKVGQOVDHLEYHLNEMQMWTTCQP--ETTNC-VPQREELH 57
 :||:||| |||:||||: ||| ||| |:
DG 31 EYNRNSNDKYSSRVVRVISAKQLVSGIKYLVEIGRTTCPKSAGDLQSCGFHEPEMA 90

```

QY      58 KQVNCFFSVFAVPMFEQYKIL  78
      | | | | | | | | | |
Db      91 KYTTCFFVVISIPWLNQIKIL 111

```

RESULT 8
US-08-791-522-4
; Sequence 4, Application US/08791522
; Patent No. 5935817
; GENERAL INFORMATION:
; APPLICANT: Bandman, Olga
; APPLICANT: Goll, Surya K.
; TITLE OF INVENTION: NOVEL HUMAN CYSTATIN-LIKE
; TITLE OF INVENTION: PROTEIN
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS: 4
; ADDRESSEE: Incyte Pharmaceuticals, Inc.

STREET: 3174 Porter Drive
CITY: Palo Alto
STATE: CA
COUNTRY: USA
ZIP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/791,522
FILING DATE: Filed Herewith
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Billings, Lucy J.
REGISTRATION NUMBER: 36,749
REFERENCE/DOCKET NUMBER: PF-0193 US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
TELEFAX: 415-845-4166
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 139 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
IMMEDIATE SOURCE:
LIBRARY: GenBank
CLONE: 118195

Query Match	34.6%	Score	154.5	DB 2	Length	139			
Best Local Similarity	38.3%	Pred. No.	1.se-12						
Matches	31	Conservative	17	Mismatches	30	Indels	3	Gaps	2

```
09      1 QYNNEDEDCXHPRIERVLKYORQVLDHLEHLNANMOWTQQCKP--ETTNK-VPOREELH 57
       |||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||
54     EYRNASNDKTSRVRVVISARQLVSGIKTLIOVEIRGTTCPKSSGDLOSCFHNDEPEMA 113
```

Qy	58	KQVNCFFSVFAVPMFEQYKIL	78
Db	114	KYTTCTFVVYSIPWLNQIKLL	134

RESULT 9
 US-09-314-777-4
 Sequence 4, Application US/09314777
 Patent No. 610686
 GENERAL INFORMATION:
 APPLICANT: Bandman, Olga
 APPLICANT: Goli, Surya K.
 TITLE OF INVENTION: NOVEL HUMAN CYSTATIN-LIKE
 TITLE OF INVENTION: PROTEIN
 NUMBER OF SEQUENCES: 4
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: Incyte Pharmaceuticals, Inc.
 STREET: 3174 Porter Drive
 CITY: Palo Alto
 STATE: CA
 COUNTRY: USA
 ZIP: 94304
 COMPUTER READABLE FORM:
 MEDIUM TYPE: Diskette
 COMPUTER: IBM Compatible
 OPERATING SYSTEM: DOS
 SOFTWARE: FastSeq for Windows Version 2.0
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/09/314,777
 FILING DATE:

Db 100 RKALCSFOIYSVPM 113

RESULT 12

5432264-6

Patent No. 5432264

APPLICANT: GRUBB, ANDERS; LUNDWALL, AKE; ABRAHAMSON, MAGNUS;

DALBOGE, HENRIK

TITLE OF INVENTION: RECOMBINANT 3-DES-OH-CYSTATIN C PRODUCED BY EXPRESSION IN A PROCARYOTIC HOST CELL

NUMBER OF SEQUENCES: 8

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/929,290

FILING DATE: 13-AUG-1992

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 440,221

FILING DATE: 21-NOV-1989

APPLICATION NUMBER: 297,198

FILING DATE: 20-MAY-1988

SEQ ID NO:6

LENGTH: 146

Query Match 33.2%; Score 148; DB 6; Length 146;

Best Local Similarity 37.3%; Pred. No. 1.1e-11;

Matches 31; Conservative 16; Mismatches 30; Indels 4; Gaps 3;

QY 1 QYNKESDXYHFRIFVLKQVQVTDHLEHNLVEMQWTCOK--PETTNC-VPOERELH 57

DB 59 EYKASNDWYHSRALQVVRARQIVAGVNYFLDVELGRTTCTKTPMLDNCPFHDQPHLK 118

QY 58 KQVNCFFSVAVPWFQYKILNK 80

DB 119 RKAFCSFOIYAVPW-QQTMTLTK 140

RESULT 13

US-09-775-932-2

Sequence 2, Application US/09775932

Patent No. 6534477

GENERAL INFORMATION:

APPLICANT: University of British Columbia

TITLE OF INVENTION: Production and use of Modified Cytatins

FILE REFERENCE: 58069

CURRENT APPLICATION NUMBER: US/09/775,932

CURRENT FILING DATE: 2001-02-02

PRIOR APPLICATION NUMBER: CA99/00717

PRIOR FILING DATE: 1999-08-05

PRIOR APPLICATION NUMBER: 60/095,503

PRIOR FILING DATE: 1998-08-05

NUMBER OF SEQ ID NOS: 32

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 2

LENGTH: 120

TYPE: PRT

ORGANISM: Homo sapiens

US-09-775-932-2

Query Match 33.6%; Score 145.5; DB 4; Length 120;

Best Local Similarity 37.8%; Pred. No. 1.9e-11;

Matches 28; Conservative 16; Mismatches 27; Indels 3; Gaps 2;

QY 1 QYNKESDXYHFRIFVLKQVQVTDHLEHNLVEMQWTCOK--PETTNC-VPOERELH 57

DB 33 EYKASNDWYHSRALQVVRARQIVAGVNYFLDVELGRTTCTKTPMLDNCPFHDQPHLK 92

QY 58 KQVNCFFSVAVPWF 71

DB 93 RKAFCSFOIYAVPW 106

RESULT 14

5432264-4

Patent No. 5432264

APPLICANT: GRUBB, ANDERS; LUNDWALL, AKE; ABRAHAMSON, MAGNUS;

DALBOGE, HENRIK

TITLE OF INVENTION: RECOMBINANT 3-DES-OH-CYSTATIN C PRODUCED BY EXPRESSION IN A PROCARYOTIC HOST CELL

NUMBER OF SEQUENCES: 8

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/929,290

FILING DATE: 13-AUG-1992

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 440,221

FILING DATE: 21-NOV-1989

APPLICATION NUMBER: 297,198

FILING DATE: 20-MAY-1988

SEQ ID NO:4

LENGTH: 120

Query Match 32.6%; Score 145.5; DB 6; Length 120;

Best Local Similarity 37.8%; Pred. No. 1.9e-11;

Matches 28; Conservative 16; Mismatches 27; Indels 3; Gaps 2;

QY 1 QYNKESDXYHFRIFVLKQVQVTDHLEHNLVEMQWTCOK--PETTNC-VPOERELH 57

DB 33 EYKASNDWYHSRALQVVRARQIVAGVNYFLDVELGRTTCTKTPMLDNCPFHDQPHLK 92

QY 58 KQVNCFFSVAVPWF 71

DB 93 RKAFCSFOIYAVPW 106

RESULT 15

US-08-832-535-11

Sequence 11, Application US/08832535

Patent No. 5919658

GENERAL INFORMATION:

APPLICANT: NI, JIAN

APPLICANT: LI, HAODONG

APPLICANT: YU, GUO-LIANG

APPLICANT: GENTZ, REINER L

TITLE OF INVENTION: HUMAN CYSTATIN P

NUMBER OF SEQUENCES: 11

CORRESPONDENCE ADDRESS:

ADDRESSEE: HUMAN GENOME SCIENCES, INC.

STREET: 9410 KEY WEST AVENUE

CITY: ROCKVILLE

STATE: MD

COUNTRY: US

ZIP: 20850

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/832,535

FILING DATE: 03-APR-1997

CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:

NAME: KIMBALL, PAUL C.

REGISTRATION NUMBER: 34,610

REFERENCE/DOCKET NUMBER: PP265

TELECOMMUNICATION INFORMATION:

TELEPHONE: (201) 994-1744

INFORMATION FOR SEQ ID NO: 11:

SEQUENCE CHARACTERISTICS:

LENGTH: 145 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

US-08-832-535-11

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:10:34 ; Search time 43.1799 Seconds

(Without alignments)
479.770 Million cell updates/sec

Title: US-09-941-314-15

Perfect score: 446
Sequence: 1 QYNKESDDKHFRIFRVLKV.....NCFPSVFAVPWFQYKILNK 80

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1049977 seqs, 258955339 residues

Total number of hits satisfying chosen parameters: 1049977

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

Published Applications AA:*

- 1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep.*
- 2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep.*
- 3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep.*
- 4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep.*
- 5: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep.*
- 6: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep.*
- 7: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep.*
- 8: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep.*
- 9: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep.*
- 10: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep.*
- 11: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep.*
- 12: /cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep.*
- 13: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep.*
- 14: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep.*
- 15: /cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep.*
- 16: /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep.*
- 17: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep.*
- 18: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	446	100.0	80	US-09-941-314-15	Sequence 15, App1
2	446	100.0	115	US-09-941-314-3	Sequence 3, App1
3	446	100.0	117	US-09-941-314-4	Sequence 4, App1
4	446	100.0	137	US-09-941-314-2	Sequence 2, App1
5	334	74.9	59	US-09-941-314-16	Sequence 16, App1
6	288	64.6	52	US-09-941-314-14	Sequence 14, App1
7	273	61.2	48	US-09-941-314-17	Sequence 17, App1
8	266	59.6	49	US-09-941-314-13	Sequence 13, App1
9	254	57.0	46	US-09-941-314-10	Sequence 10, App1
10	189	42.4	33	US-09-941-314-12	Sequence 12, App1
11	158	35.4	145	US-09-740-638-2	Sequence 2, App1
12	158	35.4	145	US-10-006-467-2	Sequence 2, App1
13	158	35.4	145	US-10-235-148-2	Sequence 2, App1
14	154.5	34.6	116	US-09-775-932-16	Sequence 16, App1
15	154.5	34.6	139	US-08-849-303-15	Sequence 15, App1

16	154.5	34.6	139	9	US-09-969-834-4	Sequence 4, App1
17	152	34.1	145	14	US-10-168-425-14	Sequence 14, App1
18	151.5	34.0	127	8	US-08-849-303-19	Sequence 19, App1
19	145.5	32.6	120	9	US-09-775-932-2	Sequence 2, App1
20	145.5	32.6	146	8	US-08-849-303-17	Sequence 17, App1
21	145.5	32.6	146	9	US-09-940-497-3	Sequence 3, App1
22	145.5	32.6	146	9	US-09-969-834-3	Sequence 3, App1
23	145.5	32.6	146	14	US-10-329-428-3	Sequence 3, App1
24	145.5	32.6	146	14	US-10-376-564-47	Sequence 47, App1
25	144.5	32.4	121	9	US-09-775-932-8	Sequence 8, App1
26	144.5	32.4	141	8	US-08-849-303-24	Sequence 24, App1
27	144.5	32.4	141	9	US-09-940-497-6	Sequence 6, App1
28	142.5	32.0	140	14	US-10-376-564-46	Sequence 46, App1
29	142.5	32.0	140	15	US-10-376-564-48	Sequence 48, App1
30	139.5	31.3	101	15	US-10-264-049-2608	Sequence 2608, App1
31	138.5	31.1	140	8	US-08-849-303-18	Sequence 18, App1
32	138	30.9	24	9	US-09-941-314-11	Sequence 11, App1
33	138	30.9	165	9	US-09-740-638-5	Sequence 5, App1
34	138	30.9	165	13	US-10-006-467-5	Sequence 5, App1
35	138	30.9	165	14	US-10-235-148-5	Sequence 5, App1
36	137	30.7	27	9	US-09-941-314-9	Sequence 9, App1
37	137	30.7	35	9	US-09-941-314-8	Sequence 8, App1
38	133.5	29.9	112	8	US-08-849-303-16	Sequence 16, App1
39	133.5	29.9	118	9	US-09-775-932-24	Sequence 24, App1
40	131.5	29.5	121	9	US-09-775-932-4	Sequence 4, App1
41	131.5	29.5	141	8	US-08-849-303-22	Sequence 22, App1
42	131.5	29.5	141	9	US-09-940-497-5	Sequence 5, App1
43	131.5	29.5	141	9	US-09-974-298-141	Sequence 11, App1
44	131.5	29.5	141	14	US-10-241-220-77	Sequence 77, App1
45	126.5	28.4	148	12	US-10-257-174-42	Sequence 42, App1

ALIGNMENTS

RESULT 1
US-09-941-314-15
Sequence 15, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-B and Its Use to
TITILE OR INVENTION: Inhibit Cancer Procoagulant Protein
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 15
LENGTH: 80
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-15

Query Match 100.0%; Score 446; DB 9; Length 80;
Best Local Similarity 100.0%; Pred. No. 4.1e-46;
Matches 80; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QYNKESDDKHFRIFRVLKVQROVTDHLEHVLNVEQMTTCQKPEITNCVPOERELHKOV 60
DB 1 QYNKESDDKHFRIFRVLKVQROVTDHLEHVLNVEQMTTCQKPEITNCVPOERELHKOV 60

QY 61 NCFPSVFAVPWFQYKILNK 80
DB 61 NCFPSVFAVPWFQYKILNK 80

RESULT 2
US-09-941-314-3
Sequence 3, Application US/09941314
Patent No. US20020142396A1

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/ GENERAL INFORMATION:
/ APPLICANT: ZymoGenetics, Inc.
/ TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
/ TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
/ FILE REFERENCE: 00-81PC
/ CURRENT APPLICATION NUMBER: US/09/941,314
/ PRIOR FILING DATE: 2001-08-29
/ PRIOR APPLICATION NUMBER: 60/230,230
/ PRIOR FILING DATE: 2001-09-01
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 3
/ LENGTH: 115
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-941-314-3

Query Match      100.0%; Score 446; DB 9; Length 115;
Best Local Similarity 100.0%; Pred. No. 6,3e-46;
Matches 80; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QYNKESDCKYHFRIFRLVKYQROVTDHLEHYHLNEMQWTTCCQKPEITNCVPOERELHKOV 60
DB 31 QYNKESDCKYHFRIFRLVKYQROVTDHLEHYHLNEMQWTTCCQKPEITNCVPOERELHKOV 90

QY 61 NCFPSVFAVPMPEQYKILNK 80
DB 91 NCFPSVFAVPMPEQYKILNK 110

RESULT 3
US-09-941-314-4
/ Sequence 4, Application US/09941314
/ Patent No. US20020142396A1
/ GENERAL INFORMATION:
/ APPLICANT: ZymoGenetics, Inc.
/ TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
/ TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
/ FILE REFERENCE: 00-81PC
/ CURRENT APPLICATION NUMBER: US/09/941,314
/ CURRENT FILING DATE: 2001-08-29
/ PRIOR APPLICATION NUMBER: 60/230,230
/ PRIOR FILING DATE: 2001-09-01
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 4
/ LENGTH: 117
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-941-314-4

Query Match      100.0%; Score 446; DB 9; Length 117;
Best Local Similarity 100.0%; Pred. No. 6,4e-46;
Matches 80; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QYNKESDCKYHFRIFRLVKYQROVTDHLEHYHLNEMQWTTCCQKPEITNCVPOERELHKOV 60
DB 33 QYNKESDCKYHFRIFRLVKYQROVTDHLEHYHLNEMQWTTCCQKPEITNCVPOERELHKOV 92

QY 61 NCFPSVFAVPMPEQYKILNK 80
DB 93 NCFPSVFAVPMPEQYKILNK 112

RESULT 4
US-09-941-314-2
/ Sequence 2, Application US/09941314
/ Patent No. US20020142396A1
/ GENERAL INFORMATION:
/ APPLICANT: ZymoGenetics, Inc.
/ TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
/ TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
/ FILE REFERENCE: 00-81PC
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/ CURRENT APPLICATION NUMBER: US/09/941,314
/ CURRENT FILING DATE: 2001-08-29
/ PRIOR APPLICATION NUMBER: 60/230,230
/ PRIOR FILING DATE: 2001-09-01
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 2
/ LENGTH: 137
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-941-314-2

Query Match      100.0%; Score 446; DB 9; Length 137;
Best Local Similarity 100.0%; Pred. No. 7,7e-46;
Matches 80; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QYNKESDCKYHFRIFRLVKYQROVTDHLEHYHLNEMQWTTCCQKPEITNCVPOERELHKOV 60
DB 53 QYNKESDCKYHFRIFRLVKYQROVTDHLEHYHLNEMQWTTCCQKPEITNCVPOERELHKOV 112

QY 61 NCFPSVFAVPMPEQYKILNK 80
DB 113 NCFPSVFAVPMPEQYKILNK 132

RESULT 5
US-09-941-314-16
/ Sequence 16, Application US/09941314
/ Patent No. US20020142396A1
/ GENERAL INFORMATION:
/ APPLICANT: ZymoGenetics, Inc.
/ TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
/ TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
/ FILE REFERENCE: 00-81PC
/ CURRENT APPLICATION NUMBER: US/09/941,314
/ CURRENT FILING DATE: 2001-08-29
/ PRIOR APPLICATION NUMBER: 60/230,230
/ PRIOR FILING DATE: 2001-09-01
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 16
/ LENGTH: 59
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-941-314-16

Query Match      74.9%; Score 334; DB 9; Length 59;
Best Local Similarity 100.0%; Pred. No. 9,2e-33;
Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 22 RQVTDHLEHYHLNEMQWTTCCQKPEITNCVPOERELHKOVNCFPSVFAVPMPEQYKILNK 80
DB 1 RQVTDHLEHYHLNEMQWTTCCQKPEITNCVPOERELHKOVNCFPSVFAVPMPEQYKILNK 59

RESULT 6
US-09-941-314-14
/ Sequence 14, Application US/09941314
/ Patent No. US20020142396A1
/ GENERAL INFORMATION:
/ APPLICANT: ZymoGenetics, Inc.
/ TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
/ TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
/ FILE REFERENCE: 00-81PC
/ CURRENT APPLICATION NUMBER: US/09/941,314
/ CURRENT FILING DATE: 2001-08-29
/ PRIOR APPLICATION NUMBER: 60/230,230
/ PRIOR FILING DATE: 2001-09-01
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 14
/ LENGTH: 52
/ TYPE: PRT
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ORGANISM: Homo sapiens
US-09-941-314-14

Query Match 64.6%; Score 288; DB 9; Length 52;
Best Local Similarity 100.0%; Pred. No. 2.8e-27;
Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 4 KESDDKXHFRIFRVLKQROVTDHLEHNLVEMQWTTCKPETTNCVPOERE 55
DB 1 KESDDKXHFRIFRVLKQROVTDHLEHNLVEMQWTTCKPETTNCVPOERE 52

RESULT 7
US-09-941-314-17
Sequence 17, Application US/09941314
Patent No. US20020142396A1

GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 17
LENGTH: 48
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-17

Query Match 61.2%; Score 273; DB 9; Length 48;
Best Local Similarity 100.0%; Pred. No. 1.6e-25;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 33 NVEMQWTTCKPETTNCVPOEREHLKQVNCFFSFPANPMPQYKILNK 80
DB 1 NVEMQWTTCKPETTNCVPOEREHLKQVNCFFSFPANPMPQYKILNK 48

RESULT 8
US-09-941-314-13
Sequence 13, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 13
LENGTH: 49
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-13

Query Match 59.6%; Score 266; DB 9; Length 49;
Best Local Similarity 100.0%; Pred. No. 1.2e-24;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QYNKESDXXHFRIFRVLKQROVTDHLEHNLVEMQWTTCKPETTNCVPOERE 48
DB 2 QYNKESDXXHFRIFRVLKQROVTDHLEHNLVEMQWTTCKPETTNCVPOERE 49

RESULT 9

US-09-941-314-10
Sequence 10, Application US/09941314
Patent No. US20020142396A1

GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 10
LENGTH: 46
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-10

Query Match 57.0%; Score 254; DB 9; Length 46;
Best Local Similarity 100.0%; Pred. No. 3e-23;
Matches 46; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 3 NKESDDKXHFRIFRVLKQROVTDHLEHNLVEMQWTTCKPETTNCVPOERE 48
DB 1 NKESDDKXHFRIFRVLKQROVTDHLEHNLVEMQWTTCKPETTNCVPOERE 46

RESULT 10
US-09-941-314-12
Sequence 12, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 12
LENGTH: 33
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-12

Query Match 42.4%; Score 189; DB 9; Length 33;
Best Local Similarity 100.0%; Pred. No. 1.4e-15;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 23 QVTDHLEHNLVEMQWTTCKPETTNCVPOERE 55
DB 1 QVTDHLEHNLVEMQWTTCKPETTNCVPOERE 33

RESULT 11
US-09-740-638-2
Sequence 2, Application US/09740638
Patent No. US20020006656A1
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
TITLE OF INVENTION: Zcyg5: A Member of the Cystatin
FILE REFERENCE: 99-104
CURRENT APPLICATION NUMBER: US/09/740,638
CURRENT FILING DATE: 2000-12-18
NUMBER OF SEQ ID NOS: 13
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 2

LENGTH: 145
 TYPE: PRT
 ORGANISM: Homo sapiens
 US-09-740-638-2

Query Match 35.4%; Score 158; DB 9; Length 145;
 Best Local Similarity 33.8%; Pred. No. 4.3e-11;
 Matches 27; Conservative 24; Mismatches 27; Indels 2; Gaps 1;

QY 2 YNKESDDKXHFRIFRVLKQOVTDHLEHNLNEMQWTTCKPPTN--CVPOERELHQ 59
 DB 52 YNNAASNTTYIKRQRLRSQRLTTGVEIVTVKIGTKCKRNDTSNSSCPLOSKKLKRS 111

QY 60 VNCFFSVFAVPMFEQYKILN 79
 DB 112 LICESLIYTPWIMYFQLMN 131

RESULT 12
 US-10-006-467-2
 Sequence 2, Application US/10006467
 Publication No. US20020164740A1

GENERAL INFORMATION:
 APPLICANT: Holloway, James L.
 TITLE OF INVENTION: Zcy5: A Member of the Cystatin
 FILE REFERENCE: 99-104CI
 CURRENT APPLICATION NUMBER: US/10/006,467

PRIOR FILING DATE: 2001-12-04
 PRIOR APPLICATION NUMBER: 60/172,119
 PRIOR FILING DATE: 1999-12-23
 PRIOR APPLICATION NUMBER: 09/740,638
 PRIOR FILING DATE: 2000-12-18
 NUMBER OF SEQ ID NOS: 13

SOFTWARE: FastSeq for Windows Version 3.0
 SEQ ID NO 2

LENGTH: 145
 TYPE: PRT
 ORGANISM: Homo sapiens
 US-10-006-467-2

Query Match 35.4%; Score 158; DB 13; Length 145;
 Best Local Similarity 33.8%; Pred. No. 4.3e-11;
 Matches 27; Conservative 24; Mismatches 27; Indels 2; Gaps 1;

QY 2 YNKESDDKXHFRIFRVLKQOVTDHLEHNLNEMQWTTCKPPTN--CVPOERELHQ 59
 DB 52 YNNAASNTTYIKRQRLRSQRLTTGVEIVTVKIGTKCKRNDTSNSSCPLOSKKLKRS 111

QY 60 VNCFFSVFAVPMFEQYKILN 79
 DB 112 LICESLIYTPWIMYFQLMN 131

RESULT 13
 US-10-235-148-2
 Sequence 2, Application US/10235148
 Publication No. US20030100096A1

GENERAL INFORMATION:
 APPLICANT: Holloway, James L.
 TITLE OF INVENTION: Zcy5: A Member of the Cystatin
 FILE REFERENCE: 99-104CI
 CURRENT APPLICATION NUMBER: US/10/235,148

PRIOR FILING DATE: 2002-09-04
 PRIOR APPLICATION NUMBER: 60/172,119
 PRIOR FILING DATE: 1999-12-23
 PRIOR APPLICATION NUMBER: 09/740,638
 PRIOR FILING DATE: 2000-12-18
 NUMBER OF SEQ ID NOS: 13

SOFTWARE: FastSeq for Windows Version 3.0
 SEQ ID NO 2

LENGTH: 145

TYPE: PRT
 ORGANISM: Homo sapiens
 US-10-235-148-2

Query Match 35.4%; Score 158; DB 14; Length 145;
 Best Local Similarity 33.8%; Pred. No. 4.3e-11;
 Matches 27; Conservative 24; Mismatches 27; Indels 2; Gaps 1;

QY 2 YNKESDDKXHFRIFRVLKQOVTDHLEHNLNEMQWTTCKPPTN--CVPOERELHQ 59
 DB 52 YNNAASNTTYIKRQRLRSQRLTTGVEIVTVKIGTKCKRNDTSNSSCPLOSKKLKRS 111

QY 60 VNCFFSVFAVPMFEQYKILN 79
 DB 112 LICESLIYTPWIMYFQLMN 131

RESULT 14
 US-09-775-932-16
 Sequence 16, Application US/09775932
 Patent No. US20020137671A1

GENERAL INFORMATION:
 APPLICANT: University of British Columbia
 TITLE OF INVENTION: Production and use of Modified Cystatins
 FILE REFERENCE: 58069
 CURRENT APPLICATION NUMBER: US/09/775,932

PRIOR FILING DATE: 2001-02-02
 PRIOR APPLICATION NUMBER: CA99/00717
 PRIOR FILING DATE: 1999-08-05
 PRIOR APPLICATION NUMBER: 60/095,503
 PRIOR FILING DATE: 1998-08-05
 NUMBER OF SEQ ID NOS: 32

SOFTWARE: Patentin Ver. 2.0
 SEQ ID NO 16

LENGTH: 116
 TYPE: PRT
 ORGANISM: Gallus sp.
 US-09-775-932-16

Query Match 34.6%; Score 154.5; DB 9; Length 116;
 Best Local Similarity 38.3%; Pred. No. 8.8e-11;
 Matches 31; Conservative 17; Mismatches 30; Indels 3; Gaps 2;

QY 1 QNKESDDKXHFRIFRVLKQOVTDHLEHNLNEMQWTTCKP--ETTNC-VPQERELH 57
 DB 31 EYNRASNDKXSSRRVRYISAKQLVSGIKYILQVEIRTTCPSSGDLQCEFDPEDEMA 90

QY 58 KQVNCFFSVFAVPMFEQYKIL 78
 DB 91 KYTTCFVYVSIPLNQIKLL 111

RESULT 15
 US-08-849-303-15
 Sequence 15, Application US/08849303
 Publication No. US20030221209A1

GENERAL INFORMATION:
 APPLICANT: Atkinson, Howard J.
 TITLE OF INVENTION: MODIFIED PROTEINASE INHIBITORS
 NUMBER OF SEQUENCES: 79
 CORRESPONDENCE ADDRESS:

ADDRESSEE: Klauber & Jackson
 STREET: 411 Hackensack Avenue, 4th Floor
 CITY: Hackensack
 STATE: New Jersey
 COUNTRY: USA
 ZIP: 07601

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
 COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS

A:Molecule type: protein
A:Residues: 24-139 <SCH>
R:Turk, V.; Brzin, J.; Longer, M.; Riconja, A.; Eropkin, M.; Borchardt, U.; Machleidt, W.
Hoppe-Seyler's Z. Physiol. Chem. 364, 1487-1496, 1983
A:Title: Protein inhibitors of cysteine proteinases. III. Amino-acid sequence of cystatin C from sheep vesicular disease virus
A:Reference number: S01461; PMID:84110059; PMID:6662498
A:Accession: S01461
A:Molecule type: protein
A:Residues: 24-139 <TR>
R:Anastasi, A.; Brown, M.A.; Kembhavi, A.A.; Nicklin, M.J.H.; Sayers, C.A.; Sunter, D.C.
Biochem. J. 211, 129-138, 1993
A:Title: Cystatin, a protein inhibitor of cysteine proteinases. Improved purification from sheep vesicular disease virus
A:Reference number: A37514; PMID:83256421; PMID:6409085
A:Contents: annotation; characterization of protein
R:Grubb, A.; Lofberg, H.; Barrett, A.J.
FEBS Lett. 170, 370-374, 1984
A:Title: The disulfide bridges of human cystatin C (gamma-trace) and chicken cystatin.
A:Contents: annotation; disulfide bonds
R:Auerwald, E.A.; Naegele, D.K.; Schulze, A.J.; Engh, R.A.; Gensinger, G.; Machleidt, W.
Eur. J. Biochem. 224, 407-415, 1994
A:Title: Production, inhibitory activity, folding and conformational analysis of an N-terminal fragment of sheep vesicular disease virus cystatin C
A:Reference number: S48159; PMID:95010016; PMID:7925354
A:Accession: S48159
A>Status: preliminary
A:Molecule type: protein
A:Residues: 24-139 <AB>
R:Liaber, B.; Krieglstein, K.; Henschen, A.; Kos, J.; Turk, V.; Huber, R.; Bodé, W.
FEBS Lett. 248, 162-168, 1989
A:Title: The cysteine proteinase inhibitor chicken cystatin is a phosphoprotein.
A:Reference number: S04008; PMID:89252033; PMID:2721673
A:Accession: S04008
A:Molecule type: protein
A:Residues: 97-114 <LB>
R:Colella, R.; Bird, J.W.C.
Gene 130, 175-181, 1993
A:Title: Isolation and characterization of the chicken cystatin-encoding gene: Mapping cDNA clones
A:Accession: UN0789
A:Molecule type: DNA
A:Residues: 1-139 <CQ>
A:Cross-references: GB:M5725
A:Note: authors failed to translate the codon for residue 115-Tyr
C:Comment: This protein binds tightly to and inhibits a variety of cysteine proteinases
C:Genetics:
A:Gene: Csn
A:Introns: 76/3; 114/3
C:Superfamily: cystatin; cystatin homology
C:Keywords: cysteine proteinase inhibitor; egg white; phosphoprotein
F:1-33/Domains: signal sequence #status predicted <SIG>
F:30-139/Product: cystatin, long form #status experimental <CYLF>
F:32-139/Product: cystatin homology <CVS>
F:76-80/Region: cystatin, short form #status experimental <CVSF>
F:94-104, 118-138/disulfide bonds: #status predicted
F:103/Binding site: phosphate (Ser) (covalent) (partial) #status experimental

Query Match 34.6%; Score 154.5; DB 1; Length 139;
Best Local Similarity 38.3%; Pred. No. 4.4e-10;
Matches 31; Conservative 17; Mismatches 30; Indels 3; Gaps 2;

CY 1 QYNKESDRIHRRIRVLKVRQVTDHLLEHILNVEMQTCKP--ETNG-VPOERELH 57
 :::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
DB 54 EYNRSNKNKYSRVVRVISAKRQLVSIGIKYLQVEIGTTCPKSGDLQSCEFDPEMA 113
 :::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
CY 58 KOVNCFSPVPAPVMPWFOYKIL 78
 |||::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
DB 114 KYTTCTFVVYSIPMLNQIKL 134

RESULT 3
S10587
cystatin C - rat

```

C:Species: Rattus sp. (rat)
C:Date: 21-Nov-1993 #sequence_revision 03-Nov-1995 #text_change 16-Jul-1999
C:Accession: S10587
R:Ennard, F.; Ennard, A.; Faucher, D.; Capony, J.P.; Derancourt, J.; Billard, M.; Gauthier, F.; Hoppe-Seyler, 371(Suppl.), 161-166, 1990
A>Title: Rat cystatin C: the complete amino acid sequence reveals a site for N-glycosylation
A:Reference number: S10587; MUID:90380276; PMID:2400577
A:Accession: S10587
A>Status: preliminary
A:Molecule type: protein
A:Residues: 1-120 <ESN>
A>Note: 43-Asn was also found
A>Note: the sequence from Fig. 2 is inconsistent with that from Fig. 1 in having 18-Ala
C:Superfamily: cystatin; cystatin homology
F:9-120/Domain: cystatin homology <CYS>

Query Match          34.0%; Score 151.5; DB 2; Length 120;
Best Local Similarity 39.2%; Pred. No. 8,1e-10;
Matches 29; Conservative 18; Mismatches 24; Indels 3; Gaps 2;

QY 1 QYNKSSDKYHRRIRFVLKQVQVTDHLEVHLNVEMQWTCQPEF--TNC-VQGEKELH 57
      :|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 33 EYNKSNDAVHRAIQVVARKQLVAGINYYLDVEMGRTCTKTSQTLNCPFDQPHLM 92
      ::|||::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|

QY 58 KQVNCFSVFAVPM 71
      ::|||::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 93 KRALCSFQIYSVPM 106

RESULT 4
S07085
Cystatin C precursor - rat (fragment)
C:Species: Rattus norvegicus (Norway rat)
C:Date: 01-Dec-1993 #sequence_revision 03-Aug-1995 #text_change 16-Jul-1999
C:Accession: S07085; S01337; S21109
R:Coile, T.; Dickson, P.W.; Ennard, F.; Averill, S.; Risbridger, G.P.; Gauthier, F.; Schreier, J. Biochem. 186, 35-42, 1989
A>Title: The cDNA structure and expression analysis of the genes for the cysteine proteinase
A:Reference number: S07085; MUID:90092122; PMID:2689174
A:Accession: S07085
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-127 <COU>
A:Cross-references: EMBL:X16957; NID:G56041; PIDN:CAA4831.1; PID:G736290
R:Ennard, A.; Ennard, F.; Faucher, D.; Gauthier, F.
FBBS Lett. 236, 475-478, 1988
A>Title: Two rat homologues of human cystatin C.
A:Reference number: S01337; MUID:88313020; PMID:3044831
A:Accession: S01337
A:Molecule type: protein
A:Residues: 8-49 <ESN>
R:Ennard, A.; Ennard, F.; Guillon, F.; Gauthier, F.
FBBS Lett. 300, 131-135, 1992
A>Title: Production of the cysteine proteinase inhibitor cystatin C by rat Sertoli cells
A:Reference number: S21109; MUID:92225121; PMID:1563513
A:Accession: S21109
A:Molecule type: protein
A:Residues: 8,'XX',11-20 <ES2>
C:Superfamily: cystatin; cystatin homology
C:Keywords: cysteine proteinase inhibitor
F:16-127/Domain: cystatin homology <CYS>
F:80-90,104-124/Disulfide bonds: #status predicted

Query Match          34.0%; Score 151.5; DB 2; Length 127;
Best Local Similarity 39.2%; Pred. No. 8,6e-10;
Matches 29; Conservative 18; Mismatches 24; Indels 3; Gaps 2;

QY 1 QYNKSSDKYHRRIRFVLKQVQVTDHLEVHLNVEMQWTCQPEF--TNC-VQGEKELH 57
      :|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 40 EYNKSNDAVHRAIQVVARKQLVAGINYYLDVEMGRTCTKTSQTLNCPFDQPHLM 99
      ::|||::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|

QY 58 KQVNCFSVFAVPM 71
      ::|||::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|

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DB 100 RALCSFPIYGVPM 113

RESULT 5

UDHU

Cysteatin C precursor [validated] - human

M:Alternate names: gamma-CSF; gamma-trace; neuroendocrine basic polypeptide; post-gamma C; Species: Homo sapiens (man)

C:Date: 06-Jul-1988 #sequence revision 31-Mar-1991 #text change 08-Dec-2000

C:Accession: S10216; S00004; J10095; A33400; S02751; A01270; A25334; S12288; A32732; A600

R:Abrahamson, M.; Olafsson, I.; Paldestottir, A.; Ulvhaeck, M.; Lundwall, A.; Jenson, O.

Biochem. J. 268, 287-294, 1990

A:Title: Structure and expression of the human cystatin C gene.

A:Reference number: S10216; MUID:90303202; PMID:236574

A:Accession: S10216

A:Molecule type: DNA

A:Residues: 1-146 <AB1>

R:Cross-references: EMBL:X52255; NID:G30257; PIDN:CAA36497.1; PID:G296643

R:Abrahamson, M.; Grubb, A.; Olafsson, I.; Lundwall, A.

FEBS Lett. 216, 229-233, 1987

A:Title: Molecular cloning and sequence analysis of cDNA coding for the precursor of the

A:Reference number: S00004; MUID:87219149; PMID:3495457

A:Accession: S00004

A:Molecule type: mRNA

A:Residues: 1-146 <AB2>

A:Cross-references: EMBL:X05607; NID:G30371; PIDN:CAA29096.1; PID:G75738

R:Levy, E.; Lopez-Otin, C.; Ghiso, J.; Gellner, D.; Frangione, B.

J. Exp. Med. 169, 1771-1778, 1989

A:Title: Stroke in Icelandic patients with hereditary amyloid angiopathy is related to a

A:Reference number: J10095; MUID:89235594; PMID:2541223

A:Accession: J10095

A:Molecule type: DNA

A:Residues: 1-146 <LEV>

A:Cross-references: EMBL:X61681; NID:G30367; PIDN:CAA43856.2; PID:G4490944

A:Note: the cystatin C gene isolated from the brain of an Icelandic patient with heredit

e) Saitoh, E.; Sabatini, L.M.; Bddy, R.L.; Shows, T.B.; Azen, E.A.; Isemura, S.; Sanada, B.

Biochem. Biophys. Res. Commun. 162, 1324-1331, 1989

A:Title: The human cystatin C gene (CST3) is a member of the cystatin gene family which

A:Reference number: A33400; MUID:89350949; PMID:2764935

A:Accession: A33400

A:Molecule type: DNA

A:Residues: 1-24, "T", 26-146 <SA1>

A:Cross-references: GB:M27889; GB:M27890; GB:M27891; NID:G181385; PIDN:AAA52164.1; PID:G

R:Ghisso, J.; Cowan, N.; Frangione, B.

Biol. Chem. Hoppe-Seyler 369, 205-208, 1988

A:Title: Isolation of a sequence encoding human cystatin C. Conservation of exon-intron

A:Reference number: S02751; MUID:85076507; PMID:3264504

A:Accession: S02751

A:Molecule type: DNA

A:Residues: 82-119 <GH2>

A:Cross-references: EMBL:M27769

A:Note: the authors translated the codon ACC for residue 105 as Thr; the sequence shown

R:Grubb, A.; Lotberg, H.

Proc. Natl. Acad. Sci. U.S.A. 79, 3024-3027, 1982

A:Title: Human gamma-trace, a basic microprotein: amino acid sequence and presence in th

A:Reference number: A01270; MUID:82222268; PMID:6283552

A:Accession: A01270

A:Molecule type: protein

A:Residues: 27-131, "S", 133-146 <GRU>

R:Ghisso, J.; Jenson, O.; Frangione, B.

Proc. Natl. Acad. Sci. U.S.A. 83, 2974-2978, 1986

A:Title: Amyloid fibrils in hereditary cerebral hemorrhage with amyloidosis of Iceland t

A:Reference number: A25434; MUID:86206076; PMID:3517880

A:Accession: A25434

A:Molecule type: protein

A:Residues: 37-93, "Q", 95-146 <GHI>

R:Rutk, V.; Birkin, J.; Longer, M.; Ritonja, A.; Eropkin, M.; Borchart, U.; Machleidt, W.

Hoppe-Seyler's Z. Physiol. Chem. 364, 1487-1496, 1983

A:Title: Protein inhibitors of cysteine proteinases. III. Amino-acid sequence of cystat

A:Reference number: S01461; MUID:84110059; PMID:6662498

A:Accession: S12288

A:Molecule type: protein

A:Residues: 27-73 <TUR>
R.Brzin, J.; Popovic, T.; Turk, V.
Biochem. Biophys. Res. Commun. 118, 103-109, 1984
A:Title: Human cystatin, a new protein inhibitor of cysteine proteinases.
A:Reference number: A32732; PMID:84128015; PMID:6365094
A:Accession: A32732
A:Molecule type: protein
A:Residues: 27-76 <BR2>
R.Olafsén, I.; Gudmundsson, G.; Abrahamson, M.; Jönsson, O.; Grubb, A.
Scand. J. Clin. Lab. Invest. 50, 85-93, 1990
A:Title: The amino terminal portion of cerebrospinal fluid cystatin C in hereditary cyste...
A:Reference number: A60552; PMID:90193615; PMID:2215647
A:Accession: A60552
A:Molecule type: protein
A:Residues: 27-49, 'XX', 52-64 <OLA>
A:Note: This protein, purified from cerebrospinal fluid of patients with the autosomal d...
defective gene is not present in CSF but is found instead in amyloid deposits
R.Popovic, T.; Brzin, J.; Riconi, A.; Turk, V.
Biol. Chem. Hoppe-Seyler 371, 575-580, 1990
A:Title: Different forms of human cystatin C.
A:Reference number: S10607; PMID:91025625; PMID:2222856
A:Accession: S10607
A:Molecule type: protein
A:Residues: 27-53 <POP>
A:Experimental source: urine, kidney disease
A:Note: Truncated forms with amino ends at positions 35 and 36 of the precursor were also
R.Grubb, A.; Löberg, H.; Barrett, A.J.
FEBS Lett. 170, 370-374, 1984
A:Title: The disulphide bridges of human cystatin C (gamma-trace) and chicken cystatin.
A:Reference number: S01462
A:Contents: annotation; disulfide bonds
R.Berti, P.J.; Storey, A.C.
Biochem. J. 302, 411-416, 1994
A:Title: Local pH-dependent conformational changes leading to proteolytic susceptibility
A:Reference number: S55305; PMID:94379969; PMID:8092921
A:Accession: S55305
A:Status: preliminary
A:Molecule type: protein
A:Residues: 27-49;106-146 <BER>
C:Comment: This protein is found in the post-gamma-globulin fraction of cerebrospinal fl...
f patients with certain autoimmune diseases.
C:Comment: This protein is an inhibitor of cysteine proteinases and may serve an importan...
C:Comment: A mutant cystatin C, with 94-Gln, is deposited in hereditary cerebral hemorr...
C:Genetics:
A:Gene: GDB: C973
A:Cross-references: GDB:119817; OMIM:105150
A:Map position: 20p11.2-20p11.2
A:Introns: 81/3; 119/3
C:Superfamily: cystatin; cystatin homology
C:Keywords: amyloid; cysteine proteinase inhibitor; extracellular protein; hydroxyproline
F:1-26/Domain: signal sequence #status predicted <SIG>
F:27-146/Product: cystatin C #status experimental <MNT>
F:35-146/Domain: cystatin homology <CYS>
F:81-85/Region: inhibitory #status predicted
F:129/Modified site: hydroxyproline (Pro) (partial) #status experimental
F:99-109,123-143/Disulfide bonds: #status experimental

C/Species: Homo sapiens (man)
 C/Date: 31-Mar-1989 #sequence revision 30-Jun-1989 #text_change 16-Jul-1999
 C/Accession: B29632; S02490; A14122; B27015
 R/Saitoh, E.; Kim, H.S.; Smithies, O.; Maeda, N.
 Gene 61, 329-338, 1987
 A/Title: Human cysteine-proteinase inhibitors: nucleotide sequence analysis of three men
 A/Reference number: A91589; MUID:88185836; PMID:3446578
 A/Accession: B29632
 A/Molecule type: DNA
 A/Residues: 1-141 <SA1>
 A/Cross-references: GB:M19673; GB:M19170; NID:G186403; PIDN:AAA3611C.1; PID:G386826
 A/Note: The authors translated the codon GAC for residue 129 as Asn
 R/Saitoh, E.; Isemura, S.; Sanada, K.; Kim, H.S.; Smithies, O.; Maeda, N.
 Biol. Chem. Hoppe-Seyler 369, 191-197, 1988
 A/Title: Cystatin superfamily. Evidence that family II cystatin genes are evolutionarily
 A/Reference number: S02489; MUID:89076505; PMID:33202964
 A/Accession: S02490
 A/Status: not compared with conceptual translation
 A/Molecule type: DNA
 A/Residues: 21-141 <SA2>
 R/Isemura, S.; Saitoh, E.; Sanada, K.
 J. Biochem. 102, 693-704, 1987
 A/Title: Characterization and amino acid sequence of a new acidic cysteine proteinase in
 A/Reference number: A41422; MUID:88139220; PMID:3436950
 A/Accession: A41422
 A/Molecule type: protein
 A/Residues: 25-141 <ISE>
 R/Isemura, S.; Saitoh, E.; Sanada, K.; Ito, S.
 in Cysteine Proteinases and Their Inhibitors, Turk, V., ed., pp.497-505, Walter de Gruyter
 A/Title: Cystatin S and the related cysteine proteinase inhibitors in human saliva.
 A/Reference number: A27015
 A/Accession: B27015
 A/Molecule type: protein
 A/Residues: 25-134, 'D', 136-141 <ISE>
 C/Genetics:
 A/Gene: GDB:CST2
 A/Cross-references: GDB:119816; OMIM:123856
 A/Map position: 20p11.2-20p11.2
 C/Superfamily: cystatin; cystatin homology
 F/30-141/Domain: cystatin homology <CYS>

Query Match 32.4%; Score 144.5; DB 2; Length 141;
 Best Local Similarity 32.9%; Pred. No. 5.8e-09;
 Matches 27; Conservative 21; Mismatches 31; Indels 3; Gaps 2;

QY 1 QYNKESDQKXFRIFRYLKYQROVTDHLEHNLVEMQWTCQK--PRTNCPQPER-ELH 57
 DB 54 EYNKATDEYRRLRLRYLRARQQLVGQVNFDFIEVGRITCTKSQPNLDTCAFHQPELQ 113

QY 58 KQVNCPSVPAVPMPEQYKILN 79
 DB 114 KQQLCSFOIYEVPMEDMSLVN 135

RESULT 7
 A36163
 Cystatin C precursor - (mouse)
 C/Species: Mus musculus (house mouse)
 C/Date: 14-Dec-1990 #sequence_revision 14-Dec-1990 #text_change 16-Jul-1999
 C/Accession: A36163
 R/Solem, M.; Rawson, C.; Lindburg, K.; Barnes, D.
 Biochem. Biophys. Res. Commun. 172, 945-951, 1990
 A/Title: Transforming growth factor beta regulates cystatin C in serum-free mouse embryo
 A/Reference number: A36163; MUID:91054522; PMID:2241983
 A/Accession: A36163
 A/Status: preliminary
 A/Molecule type: mRNA
 A/Residues: 1-140 <SOL>
 C/Cross-references: EMBL:MS9470; NID:G192911; PIDN:AAA63298.1; PID:G192912
 F/28-140/Domain: cystatin homology <CYS>
 F/93-103,117-137/Disulfide bonds: #status predicted

Query Match 31.1%; Score 138.5; DB 2; Length 140;
 Best Local Similarity 36.5%; Pred. No. 2.7e-08;
 Matches 27; Conservative 18; Mismatches 26; Indels 3; Gaps 2;

QY 1 QYNKESDQKXFRIFRYLKYQROVTDHLEHNLVEMQWTCQKPE--TNC-VPQEREELH 57
 DB 53 EYNKASDAVHSAIQVRRARQQLVGQVNFDFIEVGRITCTKSQNLDTCCPFHQPHLM 112

QY 58 KQVNCPSVPAVPMPEQYKILN 71
 DB 113 KQQLCSFOIYVPM 126

RESULT 8
 UD80
 Cystatin - bovine
 N/Alternate names: thiol proteinase inhibitor
 C/Species: Bos primigenius taurus (cattle)
 C/Date: 28-Feb-1986 #sequence_revision 28-Feb-1986 #text_change 06-Dec-1996
 C/Accession: A01271
 R/Hirado, M.; Tsunawawa, S.; Sakiyama, F.; Nishibe, M.; Fujii, S.
 FEBS Lett. 186, 41-45, 1985
 A/Title: Complete amino acid sequence of bovine colostrum low-M-r cysteine proteinase in
 A/Reference number: A01271; MUID:85231205; PMID:3891407
 A/Accession: A01271
 A/Molecule type: protein
 A/Residues: 1-112 <HIR>
 C/Superfamily: cystatin; cystatin homology
 C/Keywords: colostrum; cysteine proteinase inhibitor
 F/2-112/Domain: cystatin homology <CYS>
 F/48-52/Region: inhibitory #status predicted
 F/66-76,90-110/Disulfide bonds: #status predicted

Query Match 29.9%; Score 133.5; DB 1; Length 112;
 Best Local Similarity 32.1%; Pred. No. 7.7e-08;
 Matches 26; Conservative 19; Mismatches 33; Indels 3; Gaps 2;

QY 1 QYNKESDQKXFRIFRYLKYQROVTDHLEHNLVEMQWTCQKPE--NC-VPQEREELH 57
 DB 26 EFNKRSNDAYQSRVVRVRRARQQLVGQVNFDFIEVGRITCTKSQNLDTCCPFHQPHLM 85

QY 58 KQVNCPSVPAVPMPEQYKILN 78
 DB 86 REXKCSFOYVVPMTINLV 106

RESULT 9
 UD80P1
 Cystatin S precursor - human
 N/Alternate names: cystatin SA-III; salivary acidic protein-1
 C/Species: Homo sapiens (man)
 C/Date: 25-Feb-1985 #sequence_revision 08-Feb-1996 #text_change 16-Jul-1999
 C/Accession: S17667; S16500; A01272; A29603; S19280; A56608
 R/Bodek, L.A.; Aguirre, A.; Levine, M.J.
 Biochem. J. 278, 627-635, 1991
 A/Title: Human salivary cystatin S. Cloning, sequence analysis, hybridization in situ and
 A/Reference number: S17667; MUID:91378918; PMID:1898352
 A/Accession: S17667
 A/Molecule type: mRNA
 A/Residues: 1-141 <BOB>
 A/Cross-references: EMBL:X54667; NID:G30365; PIDN:CAA38478.1; PID:G30366
 R/Lamkin, M.S.; Jensen, J.L.; Setayesh, M.R.; Troxler, R.F.; Oppenheim, F.G.
 Arch. Biochem. Biophys. 288, 664-670, 1991
 A/Title: Salivary cystatin SA-III: a potential precursor of the acquired enamel pellicle,
 A/Reference number: S16500; MUID:91378515; PMID:1898055
 A/Accession: S16500
 A/Status: preliminary
 A/Molecule type: protein
 A/Residues: 21-134, 'D', 136-141 <IHU>
 R/Isemura, S.; Saitoh, E.; Sanada, K.
 J. Biochem. 96, 489-498, 1984
 A/Title: Isolation and amino acid sequence of SP-1, an acidic protein of human whole saliv
 A/Reference number: A91985; MUID:85054716; PMID:6501254

A:Accession: A01272
A:Molecule type: protein
A:Residues: 29-134, 'D', 136-141 <ISE>
J:Resmura, S.; Satoh, E.; Ito, S.; Isemura, M.; Sanada, K.
J. Biochem. 96, 1311-1314, 1984
A:Title: Cystatin S: a cysteine proteinase inhibitor of human saliva.
A:Reference number: A91981; PMID:85104877; PMID:5394600
A:Contents: annotation; inhibitor specificity
R:Haake, D.H.; Yuan, P.M.; Wilson, K.J.; Hunzappier, M.W.
Biochem. Biophys. Res. Commun. 145, 1248-1253, 1987
A:Title: Identification of a long form of cystatin S from human saliva by rapid microbore
A:Reference number: A29603; PMID:87270697; PMID:3496880
A:Accession: A29603
A:Molecule type: protein
A:Residues: 21-51 <HAW>
R:Ramasubbu, N.; Reddy, M.S.; Bergey, E.J.; Harsazthy, G.G.; Soni, S.D.; Levine, M.J.
Biochem. J. 280, 341-352, 1991
A:Title: Large-scale purification and characterization of the major phosphoproteins and
A:Reference number: S19279; PMID:92082469; PMID:1747107
A:Accession: S19280
A:Status: preliminary
A:Molecule type: protein
A:Residues: 21-55 <RAM>
R:Johnson, M.; Richardson, C.F.; Bergey, E.J.; Levine, M.J.; Nancollas, G.H.
Arch. Oral Biol. 36, 631-636, 1991
A:Title: The effects of human salivary cystatins and statherin on hydroxyapatite crystal
A:Reference number: A56608; PMID:92074898; PMID:1741693
A:Accession: A56608
A:Molecule type: protein
A:Residues: 21-36 <JOH>
A:Note: sequence extracted from NCBI backbone (NCBI:67866)
C:Comment: This protein strongly inhibits papain and ficin, partially inhibits stem brom
competitively.
C:Genetics:
A:Gene: GDB:CSR4
A:Cross-references: GDB:136381
A:Map position: 20p11.2-20p11.2
C:Superfamily: cystatin; cystatin inhibitor; phosphoprotein; saliva
C:Keywords: cysteine proteinase inhibitor; phosphoprotein; saliva
F:1-20/Domains: signal sequence #status predicted <SIG>
F:21-141/Product: cystatin S #status predicted <MAT>
F:30-141/Domains: cystatin homology <CYS>
F:76-80/Region: inhibitory #status predicted
F:94-104, 118-138/Disulfide bonds: #status predicted

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Query Match 29.5%; Score 131.5; DB 1; Length 141;
Best Local Similarity 32.9%; Pred. No. 1.6e-07;
Matches 27; Conservative 13; Mismatches 33; Indels 3; Gaps 2;

QY 1 QYNKESDQKTHFRIEFLVKVQROVTDHLEYNLVMQMTTCQK--PETTNCPQEE-ELH 57
      :::::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
Db 54 EYNKATEDEVYRRPLQVLRAREQTFGSGVNYFFPDVEVGRTICTKSGPNLDTCAHDEQELQ 113
      :::::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|

QY 58 KQVNCFFSVFVAPVWPFQYKILN 79
      :::|:::|:::|:::|:::|:::|
Db 114 KQCLCFEIVYEPWEDRMSLVN 135
      :::|:::|:::|:::|:::|:::|

RESULT 10
UDRHP2
cystatin SN precursor [validated] - human
N/Alternate names: cystatin SA-I
C/Species: Homo sapiens (man)
C/Date: 28-May-1986 #sequence revision 08-Feb-1996 #text_change 08-Dec-2000
C/Accession: A28110; S02489; A29632; A01273; S19279
R/Al-Haehima, I.; Dickinson, D.P.; Levine, M.J.
J. Biol. Chem. 263, 9381-9387, 1988
A/Title: Purification, molecular cloning, and sequencing of salivary cystatin SA-I
A/Reference number: A28110; MUID:88243825; PMID:2837486
A/Accession: A28110
A/Molecule type: mRNA
A/Residues: 1-141 <ADH>

```

A:Cross-references: GB:J03870; NID:9337751; PIDN:AA60299.1; PID:9337752
R:Saitoh, E.; Isemura, S.; Sanada, K.; Kim, H.S.; Smithies, O.; Maeda, N.
Biol. Chem. Hoppe-Seyler 369, 191-197, 1988
A>Title: Cystatin superfamily. Evidence that family II cystatin genes are evolutionarily
A:Reference number: S02489; MUID:89076505; PMID:3202964
A:Accession: S02489
A>Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 21-141 <SA2>
R:Saitoh, E.; Kim, H.S.; Smithies, O.; Maeda, N.
Gene 61, 329-338, 1987
A>Title: Human cysteine-proteinase inhibitors: nucleotide sequence analysis of three mem
A:Reference number: A91589; MUID:88185836; PMID:3446578
A:Accession: A29632
A:Molecule type: DNA
A:Residues: 1-86, 171, 88-141 <SA1>
R:Isemura, S.; Saitoh, E.; Sanada, K.
FEBS Lett. 198, 145-149, 1986
A>Title: Characterization of a new cysteine proteinase inhibitor of human saliva, cystati
A:Reference number: A01273; MUID:86164938; PMID:3514272
A:Accession: A01273
A:Molecule type: protein
A:Residues: 29-141 <ISB>
R:Ramashubhu, N.; Reddy, M.S.; Bergey, E.J.; Harasathy, G.G.; Soni, S.D.; Levine, M.J.
Biochem. J. 280, 341-352, 1991
A>Title: Large-scale purification and characterization of the major phosphoproteins and n
A:Reference number: S19279; MUID:92082469; PMID:1747107
A:Accession: S19279
A>Status: preliminary
A:Molecule type: protein
A:Residues: 21-55 <RM>
C:Comment: Human saliva appears to contain several cysteine proteinase inhibitors that an
ences: Cystatin SN, with a pI of 7.5, is a much better inhibitor of papain and dipeptidyl)
G:Genetics:
A:Gene: GDB:CST1
A:Cross-references: GDB:119815; OMIM:123855
A:Map position: 20p11.2-20p11.2
C:Superfamily: cystatin, cystatin homology
C:Keywords: cysteine proteinase inhibitor; extracellular protein; saliva
F:1-40/Domain: signal sequence #status predicted <SIG>
F:21-141/Product: cystatin SA-I #status experimental <MAT1>
F:29-141/Product: cystatin SN #status experimental <MAT2>
F:30-141/Domain: cystatin homology <CYS>
F:76-80/Region: inhibitory #status predicted
F:94-104,118-138/Disulfide bonds: #status predicted

Query Match 28.1%; Score 125.5; DB 1; Length 141;
Best Local Similarity 36.5%; Pred.No.7.7e-07;
Matches 27; Conservative 13; Mismatches 31; Indels 3; Gaps 2;

OY 1 QYNKESDKYHFRIRLVKVRQVTDHLRYANLNVEMQMTTCOK--PETTNCVPOER-ELH 57
 :|::||::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
DB 54 EYNATKTDDYRRRLPRLVLRARQQTVGVVYFFDVAVGRITCRKSQNLDLCARHEDELO 113
 |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
OY 58 KQVNCFSVFPAVPW 71
 ||::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
DB 114 KKQLCSFEIVPEVPW 127

RESULT 11
A28793
cystatin - puff adder
C:Species: Bitis arietans (puff adder)
C:Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #ext_change 30-Sep-1993
C:Accession: A28793
R:Rittonja, A.; Evans, H.U.; Machleidt, W.; Barrett, A.J.
Biochem. J. 246, 799-802, 1987
A>Title: Amino acid sequence of a cystatin from venom of the African puff adder (Bitis au
A:Reference number: A28793; MUID:88076861; PMID:3500714
A:Accession: A28793
A:Molecule type: protein
A:Residues: 1-111 <RT>
C:Superfamily: cystatin, cystatin homology

```

Query Match 28.1%; Score 125.5; DB 1; Length 141;
Best Local Similarity 36.5%; Pred. No. 7.7e-07;
Matches 27; Conservative 13; Mismatches 31; Indels 3; Gaps 2;

QY      1 QYNKESDDKYHRIKRVLKVQRQVTDHLKYLHNVEMQWTCCK--PETNVCVQER-ELH 57
      :|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
DB      54 EYNKATKDDYRRRLPRLVRLARQQTGVGVNYPFDVVEGRITCKSGPNLDTCAHDEQPELQ 113
      :|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|

QY      58 KQVNCFSVFAVPW 71
      :|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
DB      114 KQQLCSFEIYEVPW 127

RESULT 11
A28793
cystatin - puff adder
C|Species: Bitis arietans (puff adder)
C|Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #ext_change 30-Sep-1993
C|Accession: A28793
R|Rictonja, A.; Evans, H.J.; Machleidt, W.; Barrett, A.J.
B|Biochem. J. 246, 799-802, 1987
A|Title: Amino acid sequence of a cystatin from venom of the African puff adder (Bitis arietans)
A|Reference number: A28793; MUID:88076861; PMID:3500714
A|Accession: A28793
A|Molecule type: protein
A|Residues: 1-111 <RIT>
C|Superfamily: cystatin; cystatin homology

```


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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:05:08 ; Search time 9.03766 Seconds
(without alignments)
460.917 Million cell updates/sec

Title: US-09-941-314-15

Perfect score: 446
Sequence: 1 QVVKESDDKHFRIPRVLKV.....NCFPSVPAVPMFQYKILNK 80

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues
Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_42:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	446	100.0	137	CS11_HUMAN	O9H112 homo sapien
2	278	62.3	139	CS11_MOUSE	O9H112 mus musculu
3	199.5	44.7	142	CS18_MOUSE	P32766 mus musculu
4	187.5	42.0	142	CS18_RAT	O88969 ratu mus norv
5	174.5	39.1	142	CS18_HUMAN	O60676 homo sapien
6	155.5	34.9	148	CYT_C_RABIT	O97862 coryctolagus
7	154.5	34.6	139	CYT_CHICK	P01038 gallus galli
8	151.5	34.0	127	CYT_C_RAT	P14841 ratu mus norv
9	149.5	33.5	116	CYT_GOTJA	P01061 coturnix co
10	148.5	33.3	146	CYT_C_SALSC	O19093 salmirl bci
11	145.5	32.6	146	CYT_C_HUMAN	P01034 homo sapien
12	144.5	32.4	141	CYT_C_HUMAN	P09228 homo sapien
13	144.5	32.4	146	CYT_C_MACMU	O19092 macaca mlla
14	142.5	32.0	140	CYT_C_MOUSE	P21460 mus musculu
15	138	30.9	165	CS11_HUMAN	O9H114 homo sapien
16	133.5	29.9	148	CYT_C_BOVIN	P01035 bos taurus
17	131.5	29.5	141	CYT_C_HUMAN	P01036 homo sapien
18	125.5	28.1	141	CYT_C_HUMAN	P01037 homo sapien
19	123	27.6	111	CYT_BITAR	P08933 bltis ariet
20	122	27.4	129	CYT_CYPCA	P35481 cyprinus ca
21	118	26.5	142	CYT_C_HUMAN	P01032 homo sapien
22	112.5	25.2	149	CYT_C_HUMAN	O15882 homo sapien
23	110	24.7	147	CYT_C_HUMAN	O9H491 homo sapien
24	106	23.8	145	CYT_C_HUMAN	O76096 homo sapien
25	104	23.3	141	CYT_C_RAT	P19313 ratu mus norv
26	99	22.2	130	CYT_ONCMW	O91195 oncorhynch
27	98	22.0	130	CYT_ONCKR	O98967 oncorhynch
28	97.5	21.9	434	CS11_MOUSE	P01047 bos taurus
29	97.5	21.9	619	CS11_MOUSE	P01048 bos taurus
30	96.5	21.6	436	CS11_MOUSE	P01046 bos taurus
31	96.5	21.6	621	CS11_MOUSE	P01044 bos taurus
32	96	21.5	137	CYT_C_MOUSE	O92046 mus musculu
33	96	21.5	144	CYT_C_MOUSE	O99098 mus musculu

34	95.5	21.4	162	1	CYT_C_ONCMO	P22085 onchocerca
35	91.5	20.5	644	1	CS11_HUMAN	P01042 homo sapien
36	84	18.8	639	1	CS11_MOUSE	P08934 ratu mus norv
37	79	17.7	661	1	CS11_MOUSE	O08677 mus musculu
38	78	17.5	430	1	CS11_MOUSE	P08932 ratu mus norv
39	76	17.0	430	1	CS11_MOUSE	P01048 ratu mus norv
40	68	15.2	99	1	CYT_NAJAT	P01714 naja atra
41	66.5	14.9	625	1	CS11_MOUSE	O92544 homo sapien
42	65	14.6	602	1	CS11_MOUSE	P22437 mus musculu
43	64	14.3	915	1	CS11_MOUSE	P27967 hordium vol
44	63.5	14.2	455	1	CS11_MOUSE	O18179 caenorhdbd
45	63	14.1	438	1	CS11_MOUSE	P29717 candida alb

ALIGNMENTS

RESULT 1
ID CS11_HUMAN STANDARD; PRT; 137 AA.
AC O9H112; O9H113;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DE 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin II precursor.
GN CS11 OR CS18.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_Taxid=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RX MEDLINE=21638749; PubMed=11780052;
RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Baggaley C.L.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Beasley O.P., Bird C.P., Blakey S.E., Bridgman A.M., Brown A.J.,
RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.B., Corby N.R.,
RA Coulson A., Coville G.J., Deadman R., Dharm P.D., Dunn M.,
RA Ellington A.G., Frankland J.A., Frazer A.A., French L., Garner P.,
RA Hammond D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Lehevasliho M.H., Leverisha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
RA Marsh V.L., Martin S.L., McComachie L.J., McElay K., McMurtry A.A.,
RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsey H.,
RA Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Showkeen R., Sims S.,
RA Skuse C.D., Smith M.L., Soderlund C., Steward C.A., Sulton J.E.,
RA Swann R.M., Symcote N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
RA Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,
RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
RA Rogers J.;
RT "The DNA sequence and comparative analysis of human chromosome 20.";
RL Nature 414:665-871 (2001).
-1- SUBCELLULAR LOCATION: Secreted (Potential).
-1- ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=2;
Name=1;
IsoId=O9H112-1; Sequence=Displayed;
Name=2;
IsoId=O9H112-2; Sequence=VSP_001260;
Note=No experimental confirmation available;
-1- SIMILARITY: Belongs to the cystatin family.

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CC -----

DR EMBL; AL096677; CAC13170.1; -
 DR EMBL; AL096677; CAC17423.1; -
 DR HSSP; P01038; 1A90.
 DR Genew; HGNC:15959; CS211.
 DR Interpro; IPR000010; Cystatin.
 DR Pfam; PF00031; cystatin; 1.
 DR SMART; SM00043; CY 1.
 DR PROSITE; PS00287; CYSTATIN; FALSE_NEG.
 DR Thiol protease inhibitor; Signal; Alternative splicing.
 FT SIGNAL 1 25
 FT CHAIN 26 137
 FT SITE 75 79 CYPSTATIN 11.
 FT DISULFID 93 101 SECONDARY AREA OF CONTACT (POTENTIAL).
 FT DISULFID 114 134 BY SIMILARITY.
 FT CARBOHYD 131 131 N-LINKED (GLCNAC. .) (POTENTIAL).
 FT VARSPLIC 76 110 Missing (in isoform 2).
 FT /FTID=VSP_001260.
 SQ SEQUENCE 137 AA; 16375 MW; CS85C8C3A585C3B CRC64;

Query Match 100.0%; Score 446; DB 1; Length 137;
 Best Local Similarity 100.0%; Pred. No. 1.2e-44;
 Matches 80; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QYNKESDCKYHFRFVLYKQVOTDLEHYLVNEMQTTCKQRETNVCVPOREELKQV 60
 DB 53 QYNKESDCKYHFRFVLYKQVOTDLEHYLVNEMQTTCKQRETNVCVPOREELKQV 112

QY 61 NCFPSVFAVPWFPEQYKILNK 80
 DB 113 NCFPSVFAVPWFPEQYKILNK 132

Db 113 NCFPSVFAVPWFPEQYKILNK 132

RESULT 2
 CS11_MOUSE
 ID CS11_MOUSE STANDARD; PRT; 139 AA.
 AC 09D269;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Cystatin 11 precursor.
 GN CS211.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OC NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Epididymis;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai T., Shimagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana K.,
 RA Saito T., Okazaki Y., Gotohori T., Bono H., Kasukawa T., Saito R.,
 RA Kadoya K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 RA Fleischnann W., Gaasterland T., Gissi C., King B., Kochwa H.,
 RA Kuehl P., Lewis S., Matsuo Y., Nikaide I., Pesole G., Quackenbush J.,
 RA Schirml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Baren G.,
 RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
 RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamita Y., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima M., Mazzarelli J., Mombaerts P.,
 RA Nordone P., Ring B., Rodigues M., Rodriguez I., Sakamoto N.,
 RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyooka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,
 RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohetsuki S.,
 RA Hayashizaki Y.,
 RT "Functional annotation of a full-length mouse cDNA collection."

RL Nature 409:685-690(2001).
 CC -1- SUBCELLULAR LOCATION: Secreted (Potential).
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----

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CC -----

DR EMBL; AK020300; BAB32061.1; -
 DR HSSP; P01034; 1G96.
 DR MGD; MGI:1925490; Cst11.
 DR Interpro; IPR000010; Cystatin.
 DR Pfam; PF00031; cystatin; 1.
 DR SMART; SM00043; CY 1.
 DR PROSITE; PS00287; CYSTATIN; FALSE_NEG.
 DR Thiol protease inhibitor; Signal.
 FT SIGNAL 1 28
 FT CHAIN 29 139
 FT SITE 76 80 CYPSTATIN 11.
 FT DISULFID 94 102 SECONDARY AREA OF CONTACT (POTENTIAL).
 FT DISULFID 115 135 BY SIMILARITY.
 FT CARBOHYD 134 134 N-LINKED (GLCNAC. .) (POTENTIAL).
 SQ SEQUENCE 139 AA; 16217 MW; F228D9815FA32640 CRC64;

Query Match 62.3%; Score 278; DB 1; Length 139;
 Best Local Similarity 60.0%; Pred. No. 3.2e-25;
 Matches 48; Conservative 16; Mismatches 16; Indels 0; Gaps 0;

QY 1 QYNKESDCKYHFRFVLYKQVOTDLEHYLVNEMQTTCKQRETNVCVPOREELKQV 60
 DB 54 EYKKSSEDLYNFRILRLTKMKQVGTGHEHYLVNEMQTTCKQRETNVCVPOREELKQV 113

QY 61 NCFPSVFAVPWFPEQYKILNK 80
 DB 114 QCFPSVFAVPWFPEQYKILNK 133

Db 114 QCFPSVFAVPWFPEQYKILNK 133

RESULT 3
 CS78_MOUSE
 ID CS78_MOUSE STANDARD; PRT; 142 AA.
 AC P32766; O89102;
 DT 01-OCT-1993 (Rel. 27, Created)
 DT 30-MAY-2000 (Rel. 39, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Cystatin-related epididymal spermatozoal protein precursor (Cystatin-
 DE related epididymal specific protein) (Cystatin 8).
 GN CS78 OR CRES.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OC NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C3H, and CD-1;
 RX MEDLINE=99247899; PubMed=10229662;
 RA Cornwell G.A., Hsia N., Sutton H.G.,
 RA "Structure, alternative splicing and chromosomal localization of the
 RA cystatin-related epididymal spermatozoal gene."
 RL Biochem. J. 340:85-93(1999).
 RN [2]
 RP SEQUENCE OF 4-142 FROM N.A.
 RC TISSUE=Epididymis;
 RX MEDLINE=93078799; PubMed=1280328;
 RA Cornwell G.A., Orgebin-Crist M.-C., Hann S.R.,
 RT "The CRES gene: a unique testis-regulated gene related to the cystatin
 RT family is highly restricted in its expression to the proximal region
 RT of the mouse epididymis."
 RL Mol. Endocrinol. 6:1653-1664(1992).
 CC -1- FUNCTION: Performs a specialized role during sperm development and

maturation.

-1- SUBCELLULAR LOCATION: Secreted.

-1- TISSUE SPECIFICITY: Proximal caput region of the epididymis. Lower expression in the testis. Within the testis it is localized to the elongating spermatids, whereas within the epididymis it is exclusively synthesized by the proximal caput epithelium.

-1- INUNCTION: Testicular factors or hormones other than androgens present in the testicular fluid may be involved in the regulation of CRS gene expression.

-1- SIMILARITY: Belongs to the Cystatin family.

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CC CC EMBL; AF091503; AAC61754.1; -. DR DR EMBL; AF090691; AAC36316.1; -. DR DR EMBL; S49926; AAC35390.1; -. DR DR PIR; A45361; A45361. DR HSSP; P01034; I0396. MCD; MGI:107161; Gc8b. DR InterPro; IPRO00010; Cystatin. DR Pfam; PF00031; cystatin; 1. DR SMART; SMO0043; CY; 1. FT KW Thiol protease inhibitor; Signal. FT SIGNAL 1 19 POTENTIAL. FT CHAIN 20 142 CYSTATIN-RELATED EPIDIDYMAL SPERMATOGENIC PROTEIN. FT SITE 77 81 SECONDARY AREA OF CONTACT (POTENTIAL). FT DISULFID 95 105 BY SIMILARITY. FT DISULFID 119 139 BY SIMILARITY. FT CARBOHYD 39 39 N-LINKED (GLCNAC...) (POTENTIAL). FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL). FT COMFLICT 4 15 PMLSLIPLIP -> GRDEGVGSOK (IN REF. 2). SQ SEQUENCE 142 AA; 16288 MW; 50B446B98F6673B CRC64;

Query Match 44.7%; Score 199.5; DB 1; Length 142;
Best Local Similarity 42.2%; Pred. No. 3, 9e-16;
Matches 35; Conservative 25; Mismatches 20; Indels 3; Gaps 2

Gy 1 QYNKSDDKYHRRIPRLVKVORQVTDHBYHLNVEMWTTCKRP--ETTNCVPOER-ELH 57
|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||
Db 55 EYNKESEKKYFLVLVDKIHLAKQLIDRMVEYQIDVGISRNCKKPPLANTENCIPQKKPELE 114
|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||

Gy 58 KQVNCFSVFPAVPWFQYKILNK 80
|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||

Db 115 KKMSCSFLVGLPMNGEFNLISK 137
|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||::|||

RESULT 4

ID CST8_RAT STANDARD; PRT; 142 AA.
AC O88969;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Cysstatin-related epididymal spermatogenic protein precursor (Cystatin 8).

GN CST8 OR CRS.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxId=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Sprague-Dawley; TISSUE=Epididymis;
RX MEDLINE=99247899; PubMed=10229662;
RA Cornwall G.A.; Haie N., Sutton H.G.;
RT "Structure, alternative splicing and chromosomal localization of the

```

RT Cystatin-related epididymal spermatogenic gene." ;
RU Biochem J. 340:85-93(1999).
CC CC -I- FUNCTION: Performs a specialized role during sperm development and maturation.
CC CC -I- SUBCELLULAR LOCATION: Secreted (By similarity) .
CC CC -I- SIMILARITY: Belongs to the cystatin family.
-----
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-----
CC CC EMBL; AF090692; AACG36317.1; -.
DR HSSP; P01034; 1G96.
DR InterPro; IPR00010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; CY; 1.
DR KMW Thiol protease inhibitor; Signal.
FT SIGNAL 1 19 POTENTIAL.
FT CHAIN 20 142 CYSTATIN-RELATED EPIDIDYMAL SPERMATOGENIC PROTEIN.
FT FT SECONDARY AREA OF CONTACT (POTENTIAL) .
FT SITE 77 81 BY SIMILARITY.
FT DISULFID 95 105 BY SIMILARITY.
FT FT 119 139 N-LINKED (GLCNAC. . .) (POTENTIAL) .
FT CARBOHYD 100 100
SQ SEQUENCE 142 AA; 16246 MW; F6873FA6B6CA34 CRC64;
Query Match 42.0%; Score 187.5; DB 1; Length 142;
Best Local Similarity 41.0%; Pred. No. 9.Se-15;
Matches 34; Conservative 23; Mismatches 23; Indels 3; Gaps 2;
QY 1 QYNKESDPKYFRIFRVLKVORVTDHLEVLYLANTEMGGTTSCOKP--ETTNVCVPER-ELH 57
|::||::||::||::||::||::||::||::||::||::||::||::||::||::||::||
DB 55 EYNGSEKTYFLDLKTILHATLOITDKREHIADIVQISRSNCKRLANTENCIPOKNPTLE 114
|:::||::||::||::||::||::||::||::||::||::||::||::||::||::||
QY 58 QVNCFSVPFAPVPMFEQYKIANK 80
|:::||::||::||::||::||::||::||::||::||::||::||::||::||
DB 115 KKLCSPFLVGALPNNGEFDLSLK 137
|:::||::||::||::||::||::||::||::||::||::||::||::||::||

RESULT 5
CST8_HUMAN STANDARD; PRT; 142 AA.
AC 060676;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cysteatin-related epididymal spermatogenic protein precursor (Cystatin 8) .
GN CST8 OR CRE5.
OS Homo sapiens (Human) .
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RX MEDLINE=95344753; PubMed=7619504;
RA Cornwall G.A., Hann S.R.;
RT "Transient appearance of CRE5 protein during spermatogenesis and caput epididymal sperm maturation.";
RL Mol. Reprod. Dev. 41:37-46(1995).
RN RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=21638749; PubMed=11780052;
RA Deloukas P., Matthews L.H., Ahurst J., Burton J., Gilbert J.G.R., Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M., Beasley O.P., Bird C.F., Blakey S.E., Bridgman A.M., Brown A.J., Buck D., Burrill W.D., Butler A.P., Carter C., Carter N.P.,
```

[illegible]

Query Match	39.1%;	Score	174.5;	DB	1;	Length	142;
Best Local Similarity	42.2%;	Pred. No.	3e-13;				
Matches	35;	Conservative	23;	Mismatches	23;	Indels	3;
						Gaps	2;

OY	1	QYNKSSDDXCHRIREFVLVKOROVTHLEHNLAVEMQMOTTCQPEFTN--CVRQR-ELH	57
		: :	
Db	55	EYNKSEDDXCVFLVVKXTLQAQGVNTMLLETLLDVEIARSDCKRPLSTNEICAIQENSKLK	114
OY	58	KQVNCFSPFVAVPWFBEQYKILNK	80
		: : : : : :	
Db	115	RKLSCSFLVGALPMNGEFTVMEX	137

	RESULT	6			
CYTC_RABIT	ID	CYC_T RABIT	STANDARD;	PRT;	148 AA.
AC	O97862;				
D7	16-OCT-2001	(Rel. 40,	Created)		
D7	16-OCT-2001	(Rel. 40,	Last sequence update)		
D7	28-FEB-2003	(Rel. 41,	Last annotation update).		
DE	Cystatin C precursor.				
GN	CST3.				
OS	Eukaryotas cuniculus (Rabbit).				
OC	Eukariota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;				
OC	Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.				
OX	NCSI_taxonomy=9986;				
RN	[1]				
RP	SEQUENCE FROM N.A.				
RC	STRAIN=Japanese white; TISSUE=Bone;				
RX	MEDLINE=98424349; PubMed=9753427;				
RA	Kobori M., Ikeda Y., Nara H., Kato M., Kumegawa M., Nojima H.,				
RA	Kawashima H.;				
RT	"Large scale isolation of osteoclast-specific genes by an improved				
RT	method involving the preparation of a subtracted cdna library";				
RL	Genes Cells 3:459-475(1998).				
-I-	FUNCTIOIN: This is a thiol proteinase inhibitor.				
-I-	SIMILARITY: Belongs to the cystatin family.				
CC					
CC					
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CC	use by non-profit institutions as long as its content is in no way				
CC	modified and this statement is not removed. Usage by and for commercial				
CC	entities requires a license agreement (See http://www.isb-sib.ch/announce/				
or send an email to	license@isb-sib.ch).				
CC					
DR	HSSP; P01034; I3G6.				
DR	InterPro; IPRO00010; Cystatin.				
DR	Pfam; PF00031; cystatin; 1.				
DR	SMART; SMO0043; Cy; 1.				
DR	PROSITE; PS00287; CYSTATIN; PALSE_NEG.				
KW	Thiol protease inhibitor; Signal.				
FT	SIGNAL	1	28	POTENTIAL.	
FT	CHAIN	29	148	CYSTATIN C.	
FT	ACT SITE	39	39	REACTIVE SITE.	
FT	SITE	83	87	SECONDARY AREA OF CONTACT.	
FT	DISULFID	101	111	BY SIMILARITY.	
FT	DISULFID	125	145	BY SIMILARITY.	
SQ	SEQUENCE	148 AA;	16346 MW;	I523C831169E5B9A CRC64;	
Query March		34.9%;	Score 155.5;	DB 1;	Length 148;
Best Local Similarity		34.6%;	Pred. No. 5e-11;		
Matches	28;	Conservative	24;	Mismatches	26;
				Indels	3;
				Gaps	2;
Oy	1 QYNKSDDKHYFRIFRVLKVOQVTDHLEVLNLNEKOMTTQCQKET--TNC-VPOERELH	57			
Db	61 EYNGSGNDRYSRSLAQVVARRAQIVSGVKYYLDVIGRIITCTKTQTMLANCPFHDPDQLQ	120			
Oy	58 KOVNCFPSVFAPVPWFEOKITL	78			
Db	121 KRMLCSEFIYSVPWLNKISTL	141			

RESULT 7	
CYT_CHICK	
ID	CYT CHICK
1	STANDARD;
2	PRT;
3	139 AA

DT 21-JUL-1986 (Rel. 01, Created)
DT 01-OCT-1989 (Rel. 12, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin precursor (Egg-white cystatin).
OS *Gallus gallus* (Chicken).
CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.

OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90008673; PubMed=2793849;
RA Coteilla R., Sakaguchi Y., Nagase H., Bird J.W.C.;
RT "Chicken egg white cystatin. Molecular cloning, nucleotide sequence,
RL and tissue distribution."
RN J. Biol. Chem. 264:17164-17169(1989).
RN [2]
RP SEQUENCE OF 24-139.
RX MEDLINE=84178305; PubMed=6712597;
RA Schwabe C., Anastasi A., Crow H., McDonald J.K., Barrett A.J.;
RT "Cystatin, amino acid sequence and possible secondary structure."
RL Biochem. J. 217:813-817(1984).
RN [3]
RP SEQUENCE OF 24-139.
RX MEDLINE=84110059; PubMed=6662498;
RA Turk V., Brzin J., Longer M., Ritonja A., Eropkin M., Borchart U.,
RL Machlids W.;
RT "Protein inhibitors of cysteine proteinases. III. Amino-acid sequence
of cystatin from chicken egg white."
RN Hoppe-Seyler's Z. Physiol. Chem. 364:1487-1496(1983).
RN [4]
RP CHARACTERIZATION OF PROTEIN.
RX MEDLINE=83256421; PubMed=6409085;
RA Anastasi A., Brown M.A., Kembhavi A.A., Nicklin M.J.H., Sayers C.A.,
RA Suter D.C., Barrett A.J.;
RT "Cystatin, a protein inhibitor of cysteine proteinases. Improved
RT purification from egg white, characterization, and detection in
RT chicken serum."
RL Biochem. J. 211:129-138(1983).
RN [5]
RP DISULFIDE BONDS.
RX Grubb A., Loeffberg H., Barrett A.J.;
RT "The disulphide bridges of human cystatin C (gamma-trace) and chicken
RT cystatin."
RL FEBS Lett. 170:370-374(1984).
RN [6]
RP PHOSPHORYLATION.
RX MEDLINE=89252033; PubMed=2721673;
RA Laber B., Krieglstein K., Henschen A., Kos J., Turk V., Huber R.,
RA Bode W.;
RT "The cysteine proteinase inhibitor chicken cystatin is a
RT phosphoprotein."
RL FEBS Lett. 248:162-168(1989).
RN [7]
RP X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS).
RX MEDLINE=89052676; PubMed=3191914;
RA Bode W., Engh R., Musil D., Thiele U., Huber R., Karshikov A.,
RA Brzin J., Kos J., Turk V.;
RT "The 2.0 A X-ray crystal structure of chicken egg white cystatin and
RT its possible mode of interaction with cysteine proteinases."
RN EMBO J. 7:2593-2599(1988).
RN [8]
RP STRUCTURE BY NMR.
RX MEDLINE=94087719; PubMed=8263912;
RA Dieckmann T., Mitschang L., Hofmann M., Kos J., Turk V.,
RA Auerswald E.A., Jeanick R., Oeckl H.;
RT "The structures of native phosphorylated chicken cystatin and of a
RT recombinant unphosphorylated variant in solution."
RN J. Mol. Biol. 234:1048-1059(1993).
RN [9]
RP FUNCTION: This protein binds tightly to and inhibits a variety of
thiol processes including ficin, papain, and cathepsins B, C, H,
and L. Although isolated from egg white, it is also present in
serum.
-1- SIMILARITY: Belongs to the cystatin family.

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DR DR EMBL; J05077; AAA48744.1; -.
DR PIR; A34456; UDCH.
DR PDB; 1CEW; 31-JAN-94.
DR PDB; 1A67; 27-MAY-98.
DR PDB; 1A90; 17-JUN-98.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; Cystatin; 1.
DR SMART; SMO0043; CY; 1.
DR PROSITE; PS00287; CYSTATIN; 1.
KW Thiol protease inhibitor; Phosphorylation; Signal; 3D-structure.
FT SIGNAL 1 23 CYSTATIN.
FT CHAIN 24 139 REACTIVE SITE.
FT ACT_SITE 32 32 SECONDARY AREA OF CONTACT.
FT SITE 76 80
FT DISULFID 94 104
FT DISULFID 118 138
FT MOD_RSS 103 103 PHOSPHORYLATION (PARTIAL).
FT STRAND 35 36
FT TURN 39 40
FT TURN 42 51
FT HELIX 42 51
FT TURN 52 52
FT HELIX 53 56
FT TURN 57 58
FT STRAND 63 77
FT STRAND 81 95
FT TURN 96 97
FT TURN 99 100
FT HELIX 101 108
FT STRAND 115 125
FT TURN 126 129
FT STRAND 130 139
SQ SEQUENCE 139 AA; 15287 MW; D92D113IC4D37891 CRC64;

Query Match 34.6%; Score 154.5; DB 1; Length 139;
Best Local Similarity 38.3%; Pred. No. 6,1e-11;
Matches 31; Conservative 17; Mismatches 30; Indels 3; Gaps 2.

QY 1 QYNKESDDKHFRIFRVLKVQRQVTDHLBYHNLNEMQMOTTCOKP--ETTNC-VPOERELH 57
Db ::::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|:
54 EYNNAISNDKSSRRVRVIASAKGLVSGIKYLQVEIGRTTPKSSGDLQSCBPDEPEMA 113
QY 58 KQVNCFPSPVAAPVPWFEOYKIL 78
Db |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|:
114 KYTCTFEVVYSIPWLNIQIKLL 134

RESULT 8
CYTC_RAT STANDARD; PRT; 127 AA.
AC PI4841;
DT 01-APR-1990 (Rel. 14, Created)
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin C precursor (fragment).
GN CS73.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Buffalo;
RX MEDLINE=90092122; PubMed=2689174;
RA Cole T., Dickson P.W., Esmad F., Averill F., Ribridger G.,
RT "The cDNA structure and expression analysis of the genes for the
RT cyteine proteinase inhibitor cystatin C and for beta 2-microglobulin
RL in rat brain.";
RL Eur. J. Biochem. 106:35-42(1989).
RP [2]
SEQUENCE OF 8-127.
```

RX MEDLINE=90380276; PubMed=2400577.
 RA Ennard F., Ennard A., Faucher D., Capony J.-P., Derancourt J.,
 RA Brillard M., Gauthier F.,
 RT "Rat cystatin C: the complete amino acid sequence reveals a site for
 RT N-glycosylation.";
 RL Biol. Chem. Hoppe-Seyler 371:161-166(1990).
 RN [3]
 RP SEQUENCE OF 8-49.
 RX MEDLINE=88313020; PubMed=3044831;
 RA Ennard A., Ennard F., Faucher D., Gauthier F.,
 RL "Two rat homologues of human cystatin C.";
 FEBS Lett. 236:475-478(1988).
 RN [4]
 RP SEQUENCE OF 8-20.
 RC TISSUE=Sercoli cells;
 RX MEDLINE=92225121; PubMed=1563513;
 RA Ennard A., Ennard F., Gillion F., Gauthier F.,
 RT "Production of the cysteine proteinase inhibitor cystatin C by rat
 RT Sercoli cells.";
 RL FEBS Lett. 300:131-135(1992).
 CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity. Known to inhibit cathepsin B,
 CC H⁺ and L.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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[illegible]

QO	SEQUENCE	116 AA;	13093 MW;	482462105342P70 CRC64;
FT	MOD RES	80		PHOSPHORYLATION.
ET	DISULFID	95	115	
FT	SITE	53	57	REACTIVE SITE.
FT	ACT SITE	9	9	SECONDARY AREA OF CONTACT.
KW	Thiol protease inhibitor;			
DR	PROSITE; PS00287; CYSTATIN ¹ .			
DR	SMART; SMO0063; CY.1.			
DR	InterPro; IPR00010; Cystatin.			
CC	HSSP; POI038; ICEM.			
CC	-1- SIMILARITY: Belongs to the cystatin family.			
CC	cathepsin B.			
RL	FEBBS Lett. 412:551-556(1997).			
RT	B."			
RT	"Quail cystatin: Isolation and characterisation of a new member of the cystatin family and its hypothetical interaction with cathepsin B."			
RX	MEDLINE=97420480; PubMed=9276465;			
RX	Gethartz B., Engl R.A., Mentele K., Eckerskorn C., Torguato R., Witmann J., Kolb H.-J., Machleidt W., Fritz H., Auerwald E.A.;			
RA	"Quail cystatin: Isolation and characterisation of a new member of the cystatin family and its hypothetical interaction with cathepsin B."			
RP	SEQUENCE.			
RP	TISSUE=Egg white;			
OC	Cocurnix.			
OC	Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;			
OS	Cocurnix.			
OS	Cocurnix columrix japonica (Japanese quail).			
OS	Cystatin Egg-white cystatin.			

```

Query Match          33.5%; Score 149.5; DB 1; Length 116;
Best Local Similarity 35.8%; Pred. No. 1.9e-10;
Matches 29; Conservative 19; Mismatches 30; Indels 3; Gaps 2;

Oy      1 QYNKSDGXHFRLFRFLKQKQVQDTDLERHLNVMQMTTCQK--PETTNC-VQGEKEL 57
      :|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db      31 EYNKASNDKXSSRRVRLISAKQQLVSGIKYMEIVELRTTCPKSSADLQSCFHPDEEMA 90
      :|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Oy      58 KQVNCFFSVFVAPWPFEEQKIL 78
      :|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db      91 KYTTCNFVVISIPWLNQIKIL 111

RESULT 10
CYTC_SAISC
ID      CYTC_SAISC      STANDARD;      PRT;      146 AA.
AC      019093;
DT      15-JUN-1998 (Rel. 36, Created)
DT      15-JUL-1998 (Rel. 36, Last sequence update)
DT      28-FEB-2003 (Rel. 41, Last annotation update)
DE      Cystatin C precursor.
GN      CST3.
OS      Saimiri sciureus (Common squirrel monkey).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Cebinae; Saimiri.
OX      NCBI_TaxID=9521;
RN      [1]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=97054523; PubMed=8898820;
RA      Wei L.H., Walker L.C., Levy E.;
RT      "Cystatin C, Icelandic-like mutation in an animal model of
RT      cerebrovascular beta-amyloidosis.";
RL      Stroke 27:2080-2085(1996).
CC      -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
CC      thought to serve an important physiological role as a local
CC      regulator of this enzyme activity.
CC      -1- SIMILARITY: Belongs to the cystatin family.
CC      -----
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DR EMBL: U53028; AAB64051.1; -
 DR HSSP: P01034; 1G96.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 DR SMART: SM00043; Cy; 1.
 DR PROSITE: PS00287; CYSTATIN; 1.
 KM Thiol protease inhibitor; Amyloid; Signal.
 FT SIGNAL 1 26 BY SIMILARITY.
 FT CHAIN 27 146 CYSTATIN C.
 FT ACT_SITE 37 37 REACTIVE SITE.
 FT SITE 81 85 SECONDARY AREA OF CONTACT.
 FT DISULFID 99 109 BY SIMILARITY.
 FT DISULFID 123 143 BY SIMILARITY.
 SQ SEQUENCE 146 AA; 15946 MW; 08196353C0306AA3 CRC64;

Query Match 33.3%; Score 148.5; DB 1; Length 146;
 Best Local Similarity 39.2%; Pred. No. 3.2e-10;
 Matches 29; Conservative 16; Mismatches 26; Indels 3; Gaps 2;

QY 1 QYKESDQKHFRFRVLKXQROVTDLEHNLNEMQWTCOK--PETNVCVPER-ELH 57
 DB 59 EYKASDMYHSRLQVVRARQIVAGVYFLDVEKRTCTTKQNPILNDCPFHEQPHLK 118
 QY 58 KQVNCPSFVPAVPM 71
 DB 119 RKAFCSFOIYSVP 132

RESULT 11
 CYTC HUMAN STANDARD; PRT; 146 AA.
 ID P01034;
 AC 21-JUL-1986 (Rel. 01, Created)
 DT 01-AUG-1988 (Rel. 08, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Cystatin C precursor (Neuroendocrine basic polypeptide) (Gamma-trace)
 DE (Post-gamma-globulin).
 GN CST3.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Placenta;
 RA Abrahamsen M., Grubb A., Olafsson I., Lundvall A.;
 RT "Molecular cloning and sequence analysis of cDNA coding for the
 RT precursor of the human cysteine proteinase inhibitor cystatin C.";
 RL FEBS Lett. 216:229-233(1987).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Leukocyte;
 RA Abrahamsen M., Olafsson I., Paldettir A., Ulfarsbeck M., Lundvall A.;
 RT "Structure and expression of the human cystatin C gene.";
 RL Biochem. J. 268:287-294(1990).
 RN [3]
 RP SEQUENCE FROM N.A. (HCHWA VARIANT).
 RC TISSUE=Brain;
 RA MEDLINE=89235594; PubMed=2541223;
 RA Levy E., Lopez-Otin C., Ghiso J., Geltner D., Frangione B.;
 RT "Stroke in Icelandic patients with hereditary amyloid angiopathy is
 RT related to a mutation in the cystatin C gene, an inhibitor of
 RT cysteine proteases.";
 RL J. Exp. Med. 169:1771-1778(1989).
 RN [4]

RP SEQUENCE FROM N.A.
 RX MEDLINE=89350949; PubMed=2764935;
 RA Saitou E., Sabatini L.M., Eddy R.L., Shows T.B., Azen E.A.,
 RA Iemura S., Sanada K.;
 RT "The human cystatin C gene (CST3) is a member of the cystatin gene
 RT family which is localized on chromosome 20.";
 RL Biochem. Biophys. Res. Commun. 162:1324-1331(1989).
 RN [5]
 RP SEQUENCE FROM N.A.
 RA Dickinson D.P., Hewett-Emmett D., Thiesse M.;
 RT "Acquisition of complex patterns of differential expression in
 RT epithelial cell populations during the evolution of type 2 cystatin
 RT genes.";
 RL Submitted (NOV-2000) to the EMBL/GenBank/DBJ databases.
 RN [6]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=21638749; PubMed=11780052;
 RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
 RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
 RA Bailey J., Barlow K.P., Bates K.N., Beard L.M., Beare D.M.,
 RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
 RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
 RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
 RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
 RA Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,
 RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
 RA Graffham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
 RA Hammond S., Harley J.B., Heath P.D., Ho S., Holden J.L., Howden P.J.,
 RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
 RA Kay M.P., Kimberley A.M., King A., Knights K., Laird G.K., Lawlor S.,
 RA Lehesvistho M.H., Leverhwa M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
 RA Marsh V.L., Martin S.L., McComachie L.J., McLeay K., McMurtry A.A.,
 RA Milne S.A., Mistry D., Moore M.J.P., Mullikin J.C., Nickerson T.,
 RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
 RA Phillimore B.J.C.T., Pratchalingam S.R., Plumb R.W., Ramsey H.,
 RA Rice C.M., Rose M.T., Scott C.B., Sehra H.K., Showkeen R., Sims S.,
 RA Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sultston J.,
 RA Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
 RA Tracey A., Tromane A.C., Vaudin M., Wall M., Wallis J.M.,
 RA Whitehead S.L., Whitaker P., Willey D.L., Williams D., Williams S.A.,
 RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
 RA Rogers J.;
 RT "The DNA sequence and comparative analysis of human chromosome 20.";
 RL Nature 414:865-871(2001).
 RN [7]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=22388257; PubMed=12477932;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diatchenko L., Marishta K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Udén T.B., Toshiyuki S., Carninci P., Prange C.,
 RA Rana S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mulhally S.J.,
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Huiyk S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahey J., Halton E., Ketterman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butterfield Y.S.N., Krzywinski M.I., Skalek U., Smallin D.E.,
 RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length
 RT human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 RN [8]
 RP SEQUENCE OF 27-146.
 RX MEDLINE=82222268; PubMed=6283552;
 RA Grubb A., Loeffberg H.;
 RT "Human gamma-trace, a basic microprotein: amino acid sequence and

RT presence in the adenohipophysis.";
 RL Proc. Natl. Acad. Sci. U.S.A. 79:3024-3027(1982).
 RN [9]
 RP SEQUENCE OF 27-73.
 RX MEDLINE=64110059; PubMed=6662498;
 RA Turk V., Brzin J., Longier M., Ritonja A., Eropkin M., Borchart U.,
 Machleidt W.;
 RT "Protein inhibitors of cysteine proteinases. III. Amino-acid sequence
 of cystatin from chicken egg white.";
 RL Hoppe-Seyler's Z. Physiol. Chem. 364:1487-1496(1983).
 RN [10]
 RP SEQUENCE OF 27-76.
 RX MEDLINE=84128015; PubMed=6365094;
 RA Brzin J., Popovic T., Turk V.;
 RT "Human cystatin, a new protein inhibitor of cysteine proteinases.";
 RL Biochem. Biophys. Res. Commun. 118:103-109(1984).
 RN [11]
 RP DISULFIDE BONDS.
 RA Grubb A., Loeffberg H., Barrett A.J.;
 RT "The disulphide bridges of human cystatin C (gamma-trace) and chicken
 cystatin.";
 RL FEBS Lett. 170:370-374(1984).
 RN [12]
 RP X-RAY CRYSTALLOGRAPHY (2.50 ANGSTROMS) OF 27-146.
 RX MEDLINE=21173909; PubMed=11276250;
 RA Janowski R., Kozak M., Jankowska E., Grzonka Z., Grubb A.,
 Abrahamson M., Jaskolski M.;
 RT "Human cystatin C, an amyloidogenic protein, dimerizes through
 three-dimensional domain swapping.";
 RL Nat. Struct. Biol. 8:316-320(2001).
 RN [13]
 RP VARIANT GLN-94.
 RX MEDLINE=92316504; PubMed=1352269;
 RA Abrahamson M., Jondoecker S., Olafsson I., Jansson O., Grubb A.;
 RT "Hereditary cystatin C amyloid angiopathy: identification of the
 disease-causing mutation and specific diagnosis by polymerase chain
 reaction based analysis.";
 RL Hum. Genet. 89:377-380(1992).
 CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 thought to serve an important physiological role as a local
 regulator of this enzyme activity.
 CC -1- SUBUNIT: Homodimer.
 CC -1- TISSUE SPECIFICITY: Expressed in highest levels in the epididymis,
 vas deferens, brain, thymus, and ovary and the lowest in the
 submandibular gland.
 CC -1- DISEASE: Defects in CST3 are a cause of hereditary cerebral
 hemorrhage with amyloidosis (HCHWA) [MIM:105150]; also known as
 cerebral amyloid angiopathy (CAA) or cerebroarterial amyloidosis
 Icelandic type. HCHWA is characterized by a thickening of the
 cerebral arteries walls with deposition of material with the
 characteristics of amyloid.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 CC EMBL; X05607; CAA29096.1; -
 CC EMBL; X52255; CAA36497.1; -
 CC EMBL; M27891; AAA52164.1; -
 CC EMBL; M27889; AAA52164.1; JOINED.
 CC EMBL; M27890; AAA52164.1; JOINED.
 CC EMBL; X61681; CAA43856.2; -
 CC EMBL; X61682; CAA43856.2; JOINED.
 CC EMBL; X61683; CAA43856.2; JOINED.
 CC EMBL; A919564; AAK1570.1; -
 CC EMBL; AL121894; CAC05424.1; -
 CC EMBL; BC013083; AAA13083.1; -
 CC PIR; S10216; UDHU.

DR PDB; 1G96; 06-APR-01.
 DR Genew; HGNC:2475; CST3.
 DR MIM; 604312; -
 DR MIM; 105150; -
 DR InterPro:IPR000010; Cystatin.
 DR Pfam; PF00031; cystatin; 1.
 DR SMART; SM00043; CY; 1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 KW Thiol protease inhibitor; Amyloid; Signal; Disease mutation;
 KW Polymorphism; 3D-structure.
 FT SIGNAL 1 26
 FT CHAIN 27 146
 FT ACT_SITE 37 37
 FT SITE 81 85
 FT DISULFID 99 109
 FT DISULFID 123 143
 Query Match 32.6%; Score 145.5; DB 1; Length 146;
 Best Local Similarity 37.8%; Pred. No. 7e-10;
 Matches 28; Conservative 16; Mismatches 27; Indels 3; Gaps 2;
 QY 1 QYKESDQKHFRIPIRYLKYQROVDHLEHYLVNEMQWTCOK--PETTNC-VQDERELH 57
 DB 59 EYNKASDMTHSRALQVRAKQIVAGVNYFLDVELEKRTTCTQRPVLDNCPRHDPHLK 118
 QY 58 KQVNCFFSVEAPVW 71
 DB 119 RKAFCSPQIYAVPW 132
 RESULT 12
 CYTT HUMAN STANDARD; PRT; 141 AA.
 AC P09228; Q9UC07;
 DT 01-MAR-1989 (Rel. 10, Created)
 DT 01-MAR-1989 (Rel. 10, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Cystatin SA precursor (Cystatin S5).
 GN CST2.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 OX NCBI_Taxid=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=88185836; PubMed=3446578;
 RA Satoh E., Kim H.-S., Smithies O., Maeda N.;
 RT "Human cysteine-proteinase inhibitors: nucleotide sequence analysis
 of three members of the cystatin gene family.";
 RL Gene 61:329-338(1987).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=21638749; PubMed=11780052;
 RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
 Jones M., Scavrides G., Almeida J.P., Babbage A.K., Baggeley C.L.,
 Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
 Beasley O.P., Bird C.P., Blakey S.E., Bridgman A.M., Brown A.J.,
 Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
 Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
 Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
 Coulson A., Coville G.J., Deadman R., Dham P.D., Dunn M.,
 Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
 Graffham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
 Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Johnson D.,
 Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
 Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
 Leharasliho M.H., Leverisha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
 Marsh V.J., Martin S.L., McConnell L.J., McInerney A.A.,
 Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
 Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
 Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsey H.,
 Rice C.M., Rose M.T., Scott C.E., Sehra H.K., Showstreen R., Sims S.,
 Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,

RA Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
 RA Trecey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,
 RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
 RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
 RA Rogers J.;
 RT "The DNA sequence and comparative analysis of human chromosome 20.";
 RL Nature 414:865-871(2001).
 RN [3]
 RP SEQUENCE OF 21-40.
 RC TISSUE=Saliva;
 RX MEDLINE=9213674; PubMed=1778989;
 RA Iseamura S., Satoh E., Sanada K., Minakata K.;
 RT "Identification of full-sized forms of salivary (S-type) cystatins
 (cystatin SN, cystatin SA, cystatin S, and two phosphorylated forms of
 cystatin S) in human whole saliva and determination of phosphorylation
 sites of cystatin S.";
 RL J. Biochem. 110:648-654(1991).
 RN [4]
 RP SEQUENCE OF 25-141.
 RX MEDLINE=88139220; PubMed=3436950;
 RA Iseamura S., Satoh E., Sanada K.;
 RT "Characterization and amino acid sequence of a new acidic cysteine
 proteinase inhibitor (cystatin SA) structurally closely related to
 cystatin S, from human whole saliva.";
 RL J. Biochem. 102:693-704(1987).
 RN [5]
 RP PRELIMINARY SEQUENCE OF 25-141.
 RA Iseamura S., Satoh E., Sanada K., Iseamura M., Ito S.;
 RT "Characterization and amino acid sequence of a new acidic cysteine
 proteinase inhibitor (cystatin SA) structurally closely related to
 cystatin S, from human whole saliva.";
 RL (in) Turk V. (eds.);
 RL Cysteine proteinases and their inhibitors, pp.497-505,
 RL Walter de Gruyter, Berlin and New York (1986).
 RN [6]
 RP SEQUENCE OF 25-141 FROM N.A.
 RX MEDLINE=89076505; PubMed=3202964;
 RA Satoh E., Iseamura S., Sanada K., Kim H.-S., Smithies O., Maeda N.;
 RT "Cystatin superfamily. Evidence that family II cystatin genes are
 evolutionarily related to family III cystatin genes.";
 RL Biol. Chem. Hoppe-Seyler 369:191-197(1988).
 CC -1- FUNCTION: Thiol protease inhibitor.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 DR EMBL: M19673; AAA36116.1; -;
 DR EMBL: M19673; AAA36116.1; JOINED.
 DR EMBL: M19672; AAA36116.1; JOINED.
 DR EMBL: AL591074; CAC94784.1; -;
 DR PIR: B29632; B29632.
 DR HSSP: P01034; 1G96.
 DR Genem: HGNC:2474; CST2.
 DR MIM: 123856; -;
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; TAS.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; Cystatin; 1.
 DR SMART: SM00043; CY; 1.
 DR PROSITE: PS00287; CYSTATIN; 1.
 KW Thiol protease inhibitor; Signal; Multigene family.
 FT SIGNAL 1 20
 FT CHAIN 21 141 CYSTATIN SA.
 FT ACT_SITE 32 32 REACTIVE SITE.
 FT SITE 76 80 SECONDARY AREA OF CONTACT.
 FT DISULFID 94 104 BY SIMILARITY.
 FT DISULFID 118 138 BY SIMILARITY.

SQ SEQUENCE 141 AA; 16445 MW; EB54915B1B977A2A CRC64;
 Query Match 32.4%; Score 144.5; DB 1; Length 141;
 Best Local Similarity 32.9%; Pred. No. 8.6e-10;
 Matches 27; Conservative 21; Mismatches 31; Indels 3; Gaps 2;
 QY 1 QYNKESDDKXHFIFRVLKVRQVTDHLEVHLNVEKMTTCOK--PETTCVPOER-ELH 57
 DB 54 EYKATDEYRRLRLRLRAREQIVGSGVNFPPDIEVGRITCTSGPMLDTCAPHEQPELQ 113
 QY 58 KQVNCFFSVFAVPMFEQYKILN 79
 DB 114 KQVNCFFSVFAVPMFEQYKILN 135
 RESULT 13
 CYTC MACMU STANDARD; PRT; 146 AA.
 AC 019092;
 DT 15-JUL-1998 (Rel. 36, Created)
 DT 15-JUL-1998 (Rel. 36, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Cystatin C precursor.
 GN CST3.
 OS Macaca mulatta (Rhesus macaque).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 OC Cercopithecinae; Macaca.
 ON NCBI_TaxID=9544;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=97054523; PubMed=8898820;
 RA Wei L.H., Walker L.C., Levy E.;
 RT "Cystatin C. Icelandic-like mutation in an animal model of
 RT cerebrovascular beta-amyloidosis.";
 RL Stroke 27:2080-2085(1996).
 CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 DR EMBL: U51912; AB64050.1; -;
 DR HSSP: P01034; 1G96.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; Cystatin; 1.
 DR SMART: SM00043; CY; 1.
 DR PROSITE: PS00287; CYSTATIN; 1.
 KW Thiol protease inhibitor; Amyloid; Signal.
 FT SIGNAL 1 26
 FT CHAIN 27 146
 FT ACT_SITE 37 37 REACTIVE SITE.
 FT SITE 81 85 SECONDARY AREA OF CONTACT.
 FT DISULFID 99 109 BY SIMILARITY.
 FT DISULFID 123 143 BY SIMILARITY.
 SQ SEQUENCE 146 AA; 15857 MW; F0B3BB774A29DF26 CRC64;
 Query Match 32.4%; Score 144.5; DB 1; Length 146;
 Best Local Similarity 37.8%; Pred. No. 9.2e-10;
 Matches 28; Conservative 16; Mismatches 27; Indels 3; Gaps 2;
 QY 1 QYNKESDDKXHFIFRVLKVRQVTDHLEVHLNVEKMTTCOK--PETTCVPOER-ELH 57
 DB 59 EYKASDMDYHSHALQVARKQIVAGVNFPLDVEIARFTCTGTQPPILDCAPHEQPHLK 118
 QY 58 KQVNCFFSVFAVPM 71

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Db      119 RKAFCSFOIYVPM 132

RESULT 14
CYTC_MOUSE
ID      CYTC_MOUSE      STANDARD;      PRT;      140 AA.
AC      P21460;
DT      01-MAY-1991 (Rel. 18, Created)
DT      01-FEB-1996 (Rel. 33, Last sequence update)
DT      10-OCT-2003 (Rel. 42, Last annotation update)
DE      Cystatin C precursor (Cystatin 3).
GN      Cst3.
OS      Mus musculus (Mouse).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX      NCBI_TaxID=10090;
RN      [1]
RP      SEQUENCE FROM N.A.
RC      STRAIN=BALB/c; TISSUE=Brain;
RX      MEDLINE=91054522; PubMed=2241983;
RA      Solem M., Rawson C., Lindburg K., Barnes D.;
RT      "Transforming growth factor beta regulates cystatin C in serum-free
RT      mouse embryo (SFME) cells.";
RL      Biochem. Biophys. Res. Commun. 172:945-951(1990).
RN      [2]
RP      SEQUENCE FROM N.A.
RC      STRAIN=129/Sv; TISSUE=Liver;
RX      MEDLINE=95137392; PubMed=7835704;
RA      Huh C., Nagle J.W., Kozak C.A., Abrahamson M., Karlsson S.;
RT      "Structural organization, expression and chromosomal mapping of the
RT      mouse cystatin-C-encoding gene (Cst3).";
RL      Gene 152:221-226(1995).
RN      [3]
RP      SEQUENCE FROM N.A.
RC      STRAIN=115; and ISS;
RX      MEDLINE=21363810; PubMed=11471062;
RA      Entinger M.A., Thompson J., Conroy O., Xu Y., Yang F., Cammiff J.,
RA      Beeson M., Gordon L., Bennett B., Johnson T.E., Sikeja L.J.;
RT      "High-throughput sequence identification of gene coding variants
RT      within alcohol-related QTLs.";
RL      Mamm. Genome 12:657-663 (2001).
RN      [4]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=22388257; PubMed=12477932;
RA      Straubeberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA      Klausner R.D., Collins F.S., Wagner L., Shermen C.M., Schuler G.D.,
RA      Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA      Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA      Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA      Stapleton M., Soares M.B., Donald M.F., Casavant T.L., Scheetz T.E.,
RA      Brownstein M.J., Ueda T.B., Toshlyuki S., Carninci P., Prange C.,
RA      Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA      Bobak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA      Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA      Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA      Pahey J., Helton E., Kettelman M., Madan A.C., Rodriguez S., Sanchez A.,
RA      Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA      Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA      Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA      Buttefield Y.S.N., Krzywinski M.I., Skalska U., Smalhus D.E.,
RA      Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT      "Generation and initial analysis of more than 15,000 full-length
RT      human and mouse cDNA sequences.";
RL      Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC      -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
CC      thought to serve an important physiological role as a local
CC      regulator of this enzyme activity.
CC      -1- SIMILARITY: Belongs to the cystatin family.
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CC      or send an email to license@sib-sib.ch).
CC      -----
DR      EMBL; M59470; AAA63298.1; -.
DR      EMBL; U10098; AAB41056.1; -.
DR      EMBL; AF483486; AAL50760.1; -.
DR      EMBL; AF483487; AAL50761.1; -.
DR      EMBL; BC002072; AAL02072.1; -.
DR      PIR; A36163; A36163.
DR      HSSP; P01034; 1G96.
DR      MGD; MGI:102519; Cst3.
DR      InterPro; IPR000010; Cystatin.
DR      Pfam; PF00031; Cystatin; 1.
DR      SMART; SM00043; CY; 1.
DR      PROSITE; PS00287; CYSTATIN; 1.
KM      Thiol protease inhibitor; Signal.
FT      SIGNAL
FT      CHAIN
FT      ACT SITE
FT      SITE
FT      DISULFID
FT      DISULFID
FT      CONFLICT
FT      CONFLICT
SQ      SEQUENCE 140 AA; 15531 MW; 3A563406D58D0F5 CRC64;

Query Match 32.0%; Score 142.5; DB 1; Length 140;
Best Local Similarity 37.8%; Pred. No. 1.5e-09;
Matches 28; Conservative 18; Mismatches 25; Indels 3; Gaps 2;

QY      1 QYNKESDDKHFPIFRVLYKQROVTDHLEHILNWMQWTCQKPEI--TNC-VPQERELH 57
DB      53 EYKGSNDASHRSALQVVRARQKLVAGVNVFLDVENMORTTCTSGTTLTDCPFPHDQHLM 112
QY      58 KQVNCFFSVFAVPM 71
DB      113 RKALCSFOIYVPM 126

RESULT 15
CSTL_HUMAN
ID      CSTL_HUMAN      STANDARD;      PRT;      165 AA.
AC      O9H114;
DT      28-FEB-2003 (Rel. 41, Created)
DT      28-FEB-2003 (Rel. 41, Last sequence update)
DT      28-FEB-2003 (Rel. 41, Last annotation update)
DE      Cystatin-like 1 precursor.
GN      CSTL1.
OS      Homo sapiens (Human).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC      Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.
OX      NCBI_TaxID=9606;
RN      [1]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=21638749; PubMed=11780052;
RA      Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
RA      Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
RA      Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA      Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
RA      Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
RA      Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA      Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA      Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,
RA      Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
RA      Graffham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
RA      Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA      Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA      Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA      Levenshain M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
RA      Marsh V.L., Martin S.L., McDonnachie L.J., McKay K., McNurray A.A.,
RA      Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,

```


GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:05:48 ; Search time 42.8452 Seconds
(without alignments)
589.132 Million cell updates/sec

Title: US-09-941-314-15

Perfect score: 446
Sequence: 1 QYNKESDDKXHFRIFRVLKY.....NCFPSVFAVPWFPOYKILNK 80

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues
Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

SPTREMBL_25:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriaph:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	446	100.0	138	4 Q8WXU6	Q8WXU6 homo sapien
2	269	60.3	139	11 Q8K5A3	Q8K5A3 rattus norv
3	217.5	48.8	103	4 Q8WXU5	Q8WXU5 homo sapien
4	169.5	38.0	141	11 Q9DAP1	Q9DAP1 mus musculu
5	169.5	38.0	141	11 Q80ZNS	Q80ZNS mus musculu
6	145.5	32.6	140	11 Q9EPX9	Q9EPX9 mus musculu
7	133	29.8	140	11 Q80Y72	Q80Y72 mus musculu
8	115	25.8	112	13 Q98SR4	Q98SR4 acipenser s
9	115	25.8	112	13 Q98SR3	Q98SR3 acipenser s
10	106	23.8	167	4 Q7Z4T8	Q7Z4T8 homo sapien
11	105.5	23.7	148	11 Q9JMR4	Q9JMR4 mus musculu
12	104.5	23.4	146	11 Q8K397	Q8K397 mus musculu
13	104.5	23.4	149	11 Q8VHC1	Q8VHC1 rattus norv
14	104.5	23.4	149	11 Q9DIB1	Q9DIB1 mus musculu
15	100.5	22.5	130	11 Q8VIR8	Q8VIR8 rattus norv
16	99.5	22.3	128	11 Q9DAN8	Q9DAN8 mus musculu

17	99.5	22.3	130	11 Q9CX46	Q9CX46 mus musculu
18	99.5	22.3	130	11 Q8VIR3	Q8VIR3 mus musculu
19	96	21.5	167	11 Q9QWLS	Q9QWLS mus musculu
20	95.5	21.4	109	5 Q9TY65	Q9TY65 onchocerca
21	89.5	20.1	148	11 Q8VIR2	Q8VIR2 rattus norv
22	88.5	19.8	124	13 Q8JUF5	Q8JUF5 brachydanto
23	88.5	19.8	161	5 Q16159	Q16159 brugia mala
24	84.5	18.9	125	5 Q25620	Q25620 onchocerca
25	81.5	18.3	148	5 Q9NH95	Q9NH95 lltomosoid
26	79	17.7	127	5 P90598	P90598 brugia mala
27	78	17.5	425	3 Q12700	Q12700 debaryomyce
28	76.5	17.2	127	5 Q9U9A1	Q9U9A1 onchocerca
29	76.5	17.2	157	5 Q17108	Q17108 acanthocheil
30	76	17.0	430	11 Q63581	Q63581 rattus norv
31	75	16.8	140	6 Q7YRP6	Q7YRP6 sus scrofa
32	75	16.8	498	5 Q16454	Q16454 caenorhabdi
33	74	16.6	133	5 Q8WVB6	Q8WVB6 ixodes scap
34	72.5	16.3	462	13 Q7ZY91	Q7ZY91 xenopus lae
35	72.5	16.3	465	13 Q801E5	Q801E5 xenopus lae
36	72	16.1	423	11 P70517	P70517 rattus norv
37	72	16.1	996	4 Q8NDM7	Q8NDM7 homo sapien
38	71	15.9	506	5 Q44421	Q44421 dirosophila
39	69.5	15.6	462	13 Q7SYH2	Q7SYH2 xenopus lae
40	69	15.5	133	11 Q9D264	Q9D264 mus musculu
41	69	15.5	1779	5 Q18150	Q18150 caenorhabdi
42	68.5	15.4	357	10 Q8GVD9	Q8GVD9 helianthus
43	67	15.0	122	5 Q44396	Q44396 haemonchus
44	67	15.0	159	4 Q8TD53	Q8TD53 homo sapien
45	67	15.0	284	16 Q88207	Q88207 lactobacilli

ALIGNMENTS

RESULT 1	Q8WXU6	PRELIMINARY;	PRT;	138 AA.
ID	Q8WXU6			
AC	Q8WXU6			
DT	01-MAR-2002 (TREMURel. 20, Created)			
DT	01-MAR-2002 (TREMURel. 20, Last sequence update)			
DT	01-JUN-2003 (TREMURel. 24, Last annotation update)			
DE	SC13.			
OS	Homo sapiens (Human).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.			
OX	NCBI_TaxID=9606;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RA	Hamil K.G., Liu Q., Zhang Y.-L., French P.S., Hall S.H.;			
RT	"SC13: A novel epididymal specific member of the cystatin family."			
RL	Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.			
DR	EMBL; AF35480; AAL71991.1; -			
DR	GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.			
DR	InterPro; IPR000010; Cystatin.			
DR	Pfam; PF00031; cystatin; 1.			
DR	SMART; SM00043; CT; 1.			
DR	SEQUENCE 138 AA; 16506 MW; E49440ACA3585C64 CRC64;			
QY	QYNKESDDKXHFRIFRVLKYQROVTDHLEVHLNVEMQWTTCKQRETTNCCVPOERELHKOV 60			
QY	1 QYNKESDDKXHFRIFRVLKYQROVTDHLEVHLNVEMQWTTCKQRETTNCCVPOERELHKOV 60			
DB	54 QYNKESDDKXHFRIFRVLKYQROVTDHLEVHLNVEMQWTTCKQRETTNCCVPOERELHKOV 113			
QY	61 NCFPSVFAVPWFPOYKILNK 80			
DB	114 NCFPSVFAVPWFPOYKILNK 133			
RESULT 2	Q8K5A3			

ID Q8K5A3 PRELIMINARY; PRT; 139 AA.
 AC Q8K5A3; (TREMBlrel. 22, Created)
 DT 01-OCT-2002 (TREMBlrel. 22, Last sequence update)
 DT 01-OCT-2002 (TREMBlrel. 22, Last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
 DE Cystatin 11.
 GN Cst11.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OC NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Sprague-Dawley;
 RA Hamil K.G., Hall S.H.;
 RL Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF501230; AM21709.1;
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; Cystatin; 1.
 DR SMART; SM00043; Cy; 1.
 SQ SEQUENCE 139 AA; 16686 MW; E1E36DB786B4D08C CRC64;

Query Match 60.3%; Score 269; DB 11; Length 139;
 Best Local Similarity 55.0%; Pred. No. 4.9e-25;
 Matches 44; Conservative 19; Mismatches 17; Indels 0; Gaps 0;

QY 1 QYNKESDDKXHFRIFRVLKVGROVTDHLEHNLNVMQMTTCQKRETNCPQREELHKOV 60
 DB 54 EYNNKSDLDLNFRLRLIKETKQNTNHEPHITVEMQRTTCLKTKKLCNVQSGELHKQI 113
 QY 61 NCFPSVFAVPWFQYKILNK 80
 DB 114 QCFYFVAVPWFQYKILNK 133

RESULT 3
 Q8MXU5 PRELIMINARY; PRT; 103 AA.
 AC Q8MXU5; (TREMBlrel. 20, Created)
 DT 01-MAR-2002 (TREMBlrel. 20, Last sequence update)
 DT 01-JUN-2002 (TREMBlrel. 24, Last annotation update)
 DE SC13delta.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.
 OC NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Hamil K.G., Liu Q., Zhang Y.-L., French F.S., Hall S.H.;
 RL "SC13: A novel epididymal specific member of the cystatin family.",
 RT Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF335481; AAL71992.1;
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; Cystatin; 1.
 SQ SEQUENCE 103 AA; 12285 MW; 05DD92C47387B022 CRC64;

Query Match 48.8%; Score 217.5; DB 4; Length 103;
 Best Local Similarity 56.2%; Pred. No. 7.1e-19;
 Matches 45; Conservative 0; Mismatches 0; Indels 35; Gaps 1;

QY 1 QYNKESDDKXHFRIFRVLKVGROVTDHLEHNLNVMQMTTCQKRETNCPQREELHKOV 60
 DB 54 QYNKESDDKXHFRIFRVLKVGROVTDHLEHNLNVMQMTTCQKRETNCPQREELHKOV 78
 QY 61 NCFPSVFAVPWFQYKILNK 80
 DB 79 NCFPSVFAVPWFQYKILNK 98

RESULT 4

Q9DAP1 PRELIMINARY; PRT; 141 AA.
 AC Q9DAP1; (TREMBlrel. 17, Created)
 DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
 DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
 DE 1700006C19Rik protein.
 GN 1700006C19Rik.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OC NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Testis;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai J., Shingawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamataka I.,
 RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
 RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
 RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
 RA Schiraldi L.M., Staudli F., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Sakai K., Okido T., Futuno M., Aono H., Baldarelli R., Barsh G.,
 RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
 RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 RA Guncicich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
 RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
 RA Sasaki H., Sato K., Schoenbach C., Seta T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyooka K., Wang K.H., Weltz C., Whitaker C., Wilming L.,
 RA Wyshahizaki Y., Yoshida K., Hasegawa Y., Kawaji H., Kohatsu S.,
 RA Hayashizaki Y.;
 RT "Functional annotation of a full-length mouse cDNA collection."
 RL Nature 409:685-690(2001).
 DR EMBL; AK005665; BAB24175.1; -.
 DR HSSP; P01038; ICEW.
 DR MGD; MGI:1916544; 1700006C19Rik.
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; Cystatin; 1.
 DR SMART; SM00043; Cy; 1.
 SQ SEQUENCE 141 AA; 16811 MW; C20FA0D8B1AC378C CRC64;

Query Match 38.0%; Score 169.5; DB 11; Length 141;
 Best Local Similarity 42.2%; Pred. No. 7.4e-13;
 Matches 35; Conservative 17; Mismatches 28; Indels 3; Gaps 2;

QY 1 QYNKESDDKXHFRIFRVLKVGROVTDHLEHNLNVMQMTTCQKRETNCPQREELH 57
 DB 54 EYNNKSDLDLNFRLRLIKETKQNTNHEPHITVEMQRTTCLKTKKLCNVQSGELHKQI 113
 QY 58 KYNKESDDKXHFRIFRVLKVGROVTDHLEHNLNVMQMTTCQKRETNCPQREELH 80
 DB 114 KYNKESDDKXHFRIFRVLKVGROVTDHLEHNLNVMQMTTCQKRETNCPQREELH 136

RESULT 5
 Q80ZNS PRELIMINARY; PRT; 141 AA.
 AC Q80ZNS; (TREMBlrel. 24, Created)
 DT 01-JUN-2003 (TREMBlrel. 24, Last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, Last sequence update)
 DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
 DE RIKEN cDNA 1700006C19 gene.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OC NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testicle;

[1]
 RN SEQUENCE FROM N.A.
 RP TISSUE=Liver;
 RC Bai J., Lao H., Ye X., Li Y., Lou J.;
 RT "Molecular cloning and sequence analysis of cystatin cDNA from two
 RT species of sturgeons."
 RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AF334610; AAK16731.1; -
 DR HSSP: P01038; 1A90.
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR SMART: SM00043; CY; 1.
 DR PROSITE: PS00287; CYSTATIN; 1.
 FT NON TER 1
 SQ SEQUENCE 112 AA; 12231 MW; 48CEBFE8A08C00 CRC64;
 Query Match 25.8%; Score 115; DB 13; Length 112;
 Best Local Similarity 34.1%; Pred. No. 2.7e-06;
 Matches 29; Conservative 18; Mismatches 28; Indels 10; Gaps 3;
 QY 1 QYNKESDDKXHFRIFRVLKQVQRYTDHLEHLNEMQWTTQCK--PETTNC---VPOE 53
 DB 26 EFNASNDMTIHRSKVKVQKQVAVAGIKYIVTQMGRTSCRGAEKIELCAFDVP-- 83
 QY 54 RELHKQVNCFFSVFVAVPWFPEQYKIL 78
 DB 84 -ELAKTSTCTPEVVSRLMIPETKLV 107

RESULT 9

Q96SR3 PRELIMINARY; PRT; 112 AA.

ID Q96SR3
 AC Q96SR3;
 DT 01-JUN-2001 (TREMBlrel. 17, Created)
 DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
 DE Cystatin (Fragment).
 OS Acipenser schrenckii (Amur sturgeon).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Chondrostei; Acipenseriformes; Acipenseridae;
 OC Acipenser.
 NCBI_TaxID=111304;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RC Bai J., Lao H., Ye X., Li Y., Lou J.;
 RT "Molecular cloning and sequence analysis of cystatin cDNA from two
 RT species of sturgeons."
 RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AF334611; AAK16732.1; -
 DR HSSP: P01038; 1A90.
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; Cystatin; 1.
 DR PROSITE: PS00287; CYSTATIN; 1.
 FT NON TER 1
 SQ SEQUENCE 112 AA; 12231 MW; 48CEBFE8A08C00 CRC64;

Query Match 25.8%; Score 115; DB 13; Length 112;
 Best Local Similarity 34.1%; Pred. No. 2.7e-06;
 Matches 29; Conservative 18; Mismatches 28; Indels 10; Gaps 3;
 QY 1 QYNKESDDKXHFRIFRVLKQVQRYTDHLEHLNEMQWTTQCK--PETTNC---VPOE 53
 DB 26 EFNASNDMTIHRSKVKVQKQVAVAGIKYIVTQMGRTSCRGAEKIELCAFDVP-- 83
 QY 54 RELHKQVNCFFSVFVAVPWFPEQYKIL 78
 DB 84 -ELAKTSTCTPEVVSRLMIPETKLV 107

RESULT 10

Q724J8 PRELIMINARY; PRT; 167 AA.
 ID Q724J8
 AC Q724J8;
 DT 01-OCT-2003 (TREMBlrel. 25, Created)
 DT 01-OCT-2003 (TREMBlrel. 25, Last sequence update)
 DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)
 DE Cystatin F (leukocystatin).
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Kaine N., Chen X., Rolfe A., Halleck A., Hines L., Eisenstein S.,
 RA Koundinya M., Raphael J., Moreira D., Kelley T., Labaer J., Lin Y.,
 RA Phelan M., Farmer A.;
 RL Submitted (AUG-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL: BT009825; AAB8827.1; -
 SQ SEQUENCE 167 AA; 18857 MW; E339025A5BD60177 CRC64;
 Query Match 23.8%; Score 106; DB 4; Length 167;
 Best Local Similarity 28.4%; Pred. No. 5.2e-05;
 Matches 23; Conservative 22; Mismatches 32; Indels 4; Gaps 2;
 QY 1 QYNKESDDKXHFRIFRVLKQVQRYTDHLEHLNEMQWTTQCKPE--TTNCVPOERELH 57
 DB 81 KFNCTNDMFLFKESRITRALVQIVKGLKYMLEIVEIGRTCKKNQHLRDDCDQFQWHTL 140
 QY 58 KQ-VNCFPSVFAVPWFPEQYKI 77
 DB 141 KQTLSCYSEVAVVFWLQHFVEV 161

RESULT 11

Q9JMB4 PRELIMINARY; PRT; 148 AA.

ID Q9JMB4
 AC Q9JMB4;
 DT 01-OCT-2000 (TREMBlrel. 15, Created)
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
 DE DD72 protein (similar to cystatin 10) (Chondrocytes).
 GN CST10 OR DD72.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Ikegawa S., Nakamura Y.;
 RT "DD72, a novel mouse gene implicated in the early stage of ectopic
 RT ossification."
 RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.

[2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=FVB/N; TISSUE=salivary gland;
 RA Strauberg R.;
 RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AB036743; BA95411.1; -
 DR EMBL: BC048364; AA48364.1; -
 DR HSSP: P01034; 1G96.
 DR MGD: MGI:193004; Gcrl0.
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR InterPro: IPR001713; Steffina.
 DR Pfam: PF00031; Cystatin; 1.
 DR PRINTS: PR00295; STEFINA.
 DR SMART: SM00043; CY; 1.
 DR PROSITE: PS00287; CYSTATIN; 1.
 SQ SEQUENCE 148 AA; 16451 MW; 637534CBFCSA179 CRC64;

Query Match 23.7%; Score 105.5; DB 11; Length 148;
 Best Local Similarity 29.6%; Pred. No. 5.3e-05;
 Matches 24; Conservative 16; Mismatches 38; Indels 3; Gaps 2;

Query March 23.4%; Score 104.5; DB 11; Length 149;
Best Local Similarity 27.0%; Pred. No.7.1e-05;
Matches 24; Conservative 21; Mismatches 27; Indels 17; Gaps 3;

OY YNKESDKHYRFRFLVKVQROVTDLHEYLHNMOWTTCKP-----ETTNC----- 49
|||:::|||:::|||:::|||:::|||:::|||:::|||:::|||:::|||:::|||
Db 59 VYNDNSNLYTFROTKVIDACQLVAGIKMYMTVDISTECKRTKRVSGDHDVLTCPLAAG 118

OY 50 VPQERELHKOVNCFPSVFANVPWEQYKIL 78
|||:::|||:::|||:::|||:::|||:::|||:::|||:::|||:::|||
Db 119 VOGEK-----LRCNFELLEVPWKNKTOLL 142

RESULT 14
Q9DI1 PRELIMINARY; PRT; 149 AA.
ID Q9DI1;
AC Q9DI1;
DT 01-JUN-2001 (TReMBLrel_17, Created)
DT 01-JUN-2001 (TReMBLrel_17, Last sequence update)
DT 01-OCT-2003 (TReMBLrel_25, Last annotation update)
DE 1110017E11RLK protein (Cystatin M/E) (Cystatin N homolog) .
GN 1110017B11RLK OR CSTE6.
OS Mus musculus (Mouse) .
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NX NCBI_TaxID=10090;
ON [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Embryo;
RX MEDLINE=21085660; PubMed=11217851;
RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Atikawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamataka R.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Barclay S., Casavant T.,
RA Fleischmann W., Gaasterland T., Giessl C., King B., Kochwa H.,
RA Kuehl F., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schirral L.M., Staudt F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Bash G.,
RA Blake J., Botfeelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brakenstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli U., Mommaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Saeki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyoko-Ka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,
RA Wysshaw-Boris A., Yoshida K., Haegewa Y., Kawaji H., Kohetsuki S.,
RA Hayashizaki Y.;
RT "Functional annotation of a full-length mouse cDNA collection.";
RL Nature 409:685-690(2001).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=129SvEvTac; TISSUE=Spleen;
RX Zeeuwen P.L.U.M., van Vlijmen-Willems I.M.J.J., Hendriks W.,
RA Merckx G.F., Schaalkwijk J.;
RT "A mouse cystatin M/E-null mutation."
RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
RN [3]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Medulla oblongata;
RX MEDLINE=22354683; PubMed=12466851;
RA The PANTOM Consortium,
RA THE RIKEN Genome Exploration Research Group Phase I & II Team;
RT "Analysis of the mouse transcriptome based on functional annotation of
60,770 full-length cDNAs."
RL Nature 420:563-573(2002).
DR EMBL; AK003744; BAB22976.1; -
DR EMBL; AK093591; AAM11475.1; -
DR EMBL; AK078116; BAC37132.1; --
DR HSSP; P010318; ICEM.
DR MED; MG11920970; Cat6.
DR GO; GO:0001533; C:cornified envelope; IDA.
DR GO; GO:0008544; P:epidermal differentiation; IMP.

DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
SQ SEQUENCE 149 AA, 16796 MW, E713EB920E0EFC5 CRC64;

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:04:13 ; Search time 47.1506 Seconds

(without alignments)
353.554 Million cell updates/sec

Title: US-09-941-314-16

Perfect score: 334
Sequence: 1 RQVTDHLEHYLVNEMQWTC.....NCPSPVPAVPMFEQYKILNK 59Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0
Maximum DB seq length: 2000000000Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database : A_Geneseq_29Jan04:*

1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	334	100.0	59	5	AAU79866 Human cys
2	334	100.0	80	5	AAU79865 Human cys
3	334	100.0	115	5	AAU79853 Human cys
4	334	100.0	117	5	AAU79854 Human cys
5	334	100.0	137	5	AAU79852 Human cys
6	273	81.7	48	5	AAU79867 Human cys
7	194	58.1	52	5	AAU79864 Human cys
8	189	56.6	33	5	AAU79862 Human cys
9	154	46.1	46	5	AAU79860 Human cys
10	154	46.1	49	5	AAU79863 Human cys
11	143.5	43.0	142	7	ADD46708 Rat Prote
12	143.5	43.0	142	7	ADD46704 Rat Prote
13	142.5	42.7	142	4	AAE02404 Murine cy
14	142.5	42.7	142	4	AAE04433 Mouse cys
15	142.5	42.7	143	6	ADA14374 Mouse spe
16	138	41.3	24	5	AAU79861 Human cys
17	112.5	33.7	92	2	AAW78259 Fragment
18	112.5	33.7	123	2	AAW78260 Fragment
19	112.5	33.7	142	2	AAE078258 Fragment
20	112.5	33.7	142	4	AAE02405 Human cys
21	112.5	33.7	142	4	AAE04434 Human cys
22	112.5	33.7	142	6	ADA57231 Human bec
23	112.5	33.7	142	6	ADA41112 Human bec
24	112.5	33.7	142	7	ADC74335 Human sec
25	112.5	33.7	142	7	ADD37980 Human sec

26	112.5	33.7	142	7	ADD46706 Human Pro
27	112.5	33.7	142	7	ADD46710 Human Pro
28	111	33.2	145	4	AAE04315 Alternati
29	111	33.2	145	5	AAU76555 Human Zcy
30	111	33.2	145	6	ABG75917 Human cys
31	111	33.2	165	4	AAE04324 Human Zcy
32	111	33.2	165	5	AAU76556 Human Zcy
33	111	33.2	165	6	ABG75918 Human cys
34	107.5	32.2	141	3	AAU96576 Murine cy
35	107.5	32.2	141	4	AAE02403 Murine cy
36	107.5	32.2	141	4	AAE04432 Mouse tes
37	106	31.7	145	4	AAE04323 Human Zcy
38	106	31.7	145	4	AAE04887 Human pro
39	106	31.7	145	5	AAU76578 Human Zcy
40	106	31.7	145	6	ABG75925 Human cys
41	105	31.4	145	4	AAU08667 Human NOV
42	101.5	30.4	116	3	AAU81210 Egg white
43	100.5	30.1	116	3	AAU81212 Egg white
44	99.5	29.8	116	3	AAU81203 Egg white
45	99.5	29.8	116	3	AAU81207 Egg white

ALIGNMENTS

RESULT 1
AAU79866 standard; peptide; 59 AA.
ID AAU79866;
AC AAU79866;
DT 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #14.
XX
KW Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KW spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KW sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN W0200220567-A2.
XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026668.
XX
PR 01-SEP-2000; 2000US-0230230P.
XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
DR WPI; 2002-383044/41.
XX
PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 99; 100pp; English.
XX
CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis; modulating seminal
CC fluid viscosity; enhancing viability of cryopreserved sperm; sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large

CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 gene.
CC The polynucleotide encoding (1) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (1) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX
SQ Sequence 59 AA:
Query Match 100.0%; Score 334; DB 5; Length 59;
Best Local Similarity 100.0%; Pred. No. 3.1e-34;
Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
1 RQVTDHLEHVLNEMQMTTCQKPEPTNCVQPERELHKQVNCFFSVFVPMFPEQYKLIK 59
1 RQVTDHLEHVLNEMQMTTCQKPEPTNCVQPERELHKQVNCFFSVFVPMFPEQYKLIK 59
DB
RESULT 2
AAU79865
ID AAV79865 standard; peptide; 80 AA.
XX
AC AAV79865;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #13.
XX
KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KM sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.
XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026868.
XX
PR 01-SEP-2000; 2000US-0230230P.
XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
DR WPI; 2002-383044/41.
XX
PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 98; 100pp; English.
XX
CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (1). (1) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(1) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (1) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The

CC polynucleotide encoding (1) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX
SQ Sequence 80 AA:
Query Match 100.0%; Score 334; DB 5; Length 80;
Best Local Similarity 100.0%; Pred. No. 4.5e-34;
Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
22 RQVTDHLEHVLNEMQMTTCQKPEPTNCVQPERELHKQVNCFFSVFVPMFPEQYKLIK 80
1 RQVTDHLEHVLNEMQMTTCQKPEPTNCVQPERELHKQVNCFFSVFVPMFPEQYKLIK 59
DB
RESULT 3
AAU79853
ID AAV79853 standard; protein; 115 AA.
XX
AC AAV79853;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #1.
XX
KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KM sperm motility; fertilisation; antigenic fragment.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.
XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026868.
XX
PR 01-SEP-2000; 2000US-0230230P.
XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
DR WPI; 2002-383044/41.
XX
PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 94; 100pp; English.
XX
CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (1). (1) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(1) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (1) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (1) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.

CC This sequence represents an antigenic fragment of human cystatin-8
 CC (Zcys8)

XX Sequence 115 AA;

Query Match 100.0%; Score 334; DB 5; Length 115;

Best Local Similarity 100.0%; Pred. No. 6.9e-34;

Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 RQVTDHLEHYHNLNEMQMTTCQKPEPTTNCVPOERELHKQVNCFFSVFVAPWPFEOYKILNK 59
 DB 52 RQVTDHLEHYHNLNEMQMTTCQKPEPTTNCVPOERELHKQVNCFFSVFVAPWPFEOYKILNK 110

RESULT 4

AAU79854
 ID AAU79854 standard; protein; 117 AA.

AC AAU79854;

XX 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8) antigenic fragment #2.

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;

KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;

KW sperm motility; fertilisation; antigenic fragment.

OS Homo sapiens.

XX WO200220567-A2.

PN 14-MAR-2002.

PF 29-AUG-2001; 2001MO-US026868.

XX 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

DR WPI; 2002-383044/41.

XX Novel isolated mammalian cystatin-8 polypeptide useful for promoting

PT spermatogenesis, and inhibiting cancer procoagulant protein which leads

PS to inhibition of thrombotic events associated with cancer.

XX Claim 2; Page 94-95; 100pp; English.

CC The invention describes an isolated mammalian cystatin-8 (Zcys8)

CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant

CC protein in an individual and thus inhibiting the thrombotic events

CC associated with cancer; promoting spermatogenesis, modulating seminal

CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm

CC motility and fertilisation; and as antigenic peptides to generate

CC antibodies. Zcys8 is useful as research reagent for characterising sites

CC of interaction between Zcys8 and its receptor. Zcys8 is useful in

CC enhancing fertilisation during assisted reproduction in humans and in

CC animals. Anti-(I) antibodies are useful to screen biological samples like

CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the

CC presence of Zcys8. The antibodies are also useful to isolate large

CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 gene.

CC The polynucleotide encoding (I) is useful to detect and to localise the

CC expression of a Zcys8 gene in a biological sample and Zcys8

CC oligonucleotide probes are useful for in vivo diagnosis. The

CC polynucleotide encoding (I) is useful in determining whether a subject's

CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene

CC copy number changes, insertions, deletions, restriction site changes and

CC rearrangements and genetic alterations that inactivate the Zcys8 gene.

CC This sequence represents an antigenic fragment of human cystatin-8

CC (Zcys8)

XX

SQ Sequence 117 AA;

Query Match 100.0%; Score 334; DB 5; Length 117;

Best Local Similarity 100.0%; Pred. No. 7e-34;

Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 RQVTDHLEHYHNLNEMQMTTCQKPEPTTNCVPOERELHKQVNCFFSVFVAPWPFEOYKILNK 59
 DB 54 RQVTDHLEHYHNLNEMQMTTCQKPEPTTNCVPOERELHKQVNCFFSVFVAPWPFEOYKILNK 112

RESULT 5

AAU79852
 ID AAU79852 standard; protein; 137 AA.

AC AAU79852;

XX 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8).

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;

KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;

KW sperm motility; fertilisation.

OS Homo sapiens.

XX WO200220567-A2.

PN 14-MAR-2002.

PF 29-AUG-2001; 2001MO-US026868.

XX 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

DR WPI; 2002-383044/41.

XX N-PSDB; ABK49522.

XX Novel isolated mammalian cystatin-8 polypeptide useful for promoting

PT spermatogenesis, and inhibiting cancer procoagulant protein which leads

PS to inhibition of thrombotic events associated with cancer.

XX Claim 2; Page 93-94; 100pp; English.

CC The invention describes an isolated mammalian cystatin-8 (Zcys8)

CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant

CC protein in an individual and thus inhibiting the thrombotic events

CC associated with cancer; promoting spermatogenesis, modulating seminal

CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm

CC motility and fertilisation; and as antigenic peptides to generate

CC antibodies. Zcys8 is useful as research reagent for characterising sites

CC of interaction between Zcys8 and its receptor. Zcys8 is useful in

CC enhancing fertilisation during assisted reproduction in humans and in

CC animals. Anti-(I) antibodies are useful to screen biological samples like

CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the

CC presence of Zcys8. The antibodies are also useful to isolate large

CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 gene.

CC The polynucleotide encoding (I) is useful to detect and to localise the

CC expression of a Zcys8 gene in a biological sample and Zcys8

CC oligonucleotide probes are useful for in vivo diagnosis. The

CC polynucleotide encoding (I) is useful in determining whether a subject's

CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene

CC copy number changes, insertions, deletions, restriction site changes and

CC rearrangements and genetic alterations that inactivate the Zcys8 gene.

CC This is the amino acid sequence of human cystatin-8 (Zcys8)

XX

Query Match 100.0%; Score 334; DB 5; Length 137;

Best Local Similarity 100.0%; Pred. No. 8.5e-34;
Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ROYTDHLEHYHNVEMQWTTCKPPTNCVPOERELHKQVNCFFSVFAVPMPEQYKILNK 59
DB 74 ROYTDHLEHYHNVEMQWTTCKPPTNCVPOERELHKQVNCFFSVFAVPMPEQYKILNK 132

RESULT 6

AAU79867
ID AAU79867 standard; peptide; 48 AA.

XX AAU79867;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8) antigenic fragment #15.

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;

KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;

XX sperm motility; fertilisation; antigenic peptide.

OS Homo sapiens.

PN WO200220567-A2.

XX 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

PR 01-SEP-2000; 2000US-0230230P.

XX (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

DR WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting

XX spermatogenesis, and inhibiting cancer procoagulant protein which leads

PS to inhibition of thrombotic events associated with cancer.

XX Claim 2; Page 99; 100pp; English.

CC The invention describes an isolated mammalian cystatin-8 (Zcys8)

CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant

CC protein in an individual and thus inhibiting the thrombotic events

CC associated with cancer; promoting spermatogenesis, modulating seminal

CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm

CC motility and fertilisation; and as antigenic peptides to generate

CC antibodies. Zcys8 is useful as research reagent for characterising sites

CC of interaction between Zcys8 and its receptor. Zcys8 is useful in

CC enhancing fertilisation during assisted reproduction in humans and in

CC animals. Anti-(I) antibodies are useful to screen biological samples like

CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the

CC presence of Zcys8. The antibodies are also useful to isolate large

CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.

CC The polynucleotide encoding (I) is useful to detect and to localise the

CC expression of a Zcys8 gene in a biological sample and Zcys8

CC oligonucleotide probes are useful for in vivo diagnosis. The

CC polynucleotide encoding (I) is useful in determining whether a subject's

CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene

CC copy number changes, insertions, deletions, restriction site changes and

CC rearrangements and genetic alterations that inactivate the Zcys8 gene.

CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)

XX Sequence 48 AA;

SQ

Query Match 81.7%; Score 273; DB 5; Length 48;

Best Local Similarity 100.0%; Pred. No. 1.1e-26;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 12 NVEMQWTTCKPPTNCVPOERELHKQVNCFFSVFAVPMPEQYKILNK 59

DB 1 NVEMQWTTCKPPTNCVPOERELHKQVNCFFSVFAVPMPEQYKILNK 48

RESULT 7

AAU79864
ID AAU79864 standard; peptide; 52 AA.

XX AAU79864;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8) antigenic fragment #12.

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;

KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;

XX sperm motility; fertilisation; antigenic peptide.

OS Homo sapiens.

PN WO200220567-A2.

XX 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

PR 01-SEP-2000; 2000US-0230230P.

XX (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

DR WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting

XX spermatogenesis, and inhibiting cancer procoagulant protein which leads

PS to inhibition of thrombotic events associated with cancer.

XX Claim 2; Page 98; 100pp; English.

CC The invention describes an isolated mammalian cystatin-8 (Zcys8)

CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant

CC protein in an individual and thus inhibiting the thrombotic events

CC associated with cancer; promoting spermatogenesis, modulating seminal

CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm

CC motility and fertilisation; and as antigenic peptides to generate

CC antibodies. Zcys8 is useful as research reagent for characterising sites

CC of interaction between Zcys8 and its receptor. Zcys8 is useful in

CC enhancing fertilisation during assisted reproduction in humans and in

CC animals. Anti-(I) antibodies are useful to screen biological samples like

CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the

CC presence of Zcys8. The antibodies are also useful to isolate large

CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.

CC The polynucleotide encoding (I) is useful to detect and to localise the

CC expression of a Zcys8 gene in a biological sample and Zcys8

CC oligonucleotide probes are useful for in vivo diagnosis. The

CC polynucleotide encoding (I) is useful in determining whether a subject's

CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene

CC copy number changes, insertions, deletions, restriction site changes and

CC rearrangements and genetic alterations that inactivate the Zcys8 gene.

CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)

XX Sequence 52 AA;

SQ

Query Match 58.1%; Score 194; DB 5; Length 52;

Best Local Similarity 100.0%; Pred. No. 9.6e-17;
Matches 34; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ROYTDHLEHYHNVEMQWTTCKPPTNCVPOERE 34
DB 19 ROYTDHLEHYHNVEMQWTTCKPPTNCVPOERE 52

RESULT 8
AAU79862
ID AAU79862 standard; peptide; 33 AA.
XX
AC AAU79862;
XX
AC AAU79862;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #10.
XX
XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KM sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.
XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026868.
XX
PR 01-SEP-2000; 2000US-0230230P.
XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
DR WPI; 2002-383044/41.
XX
PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 97; 100pp; English.
XX
XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX
SQ Sequence 33 AA;
XX
XX Query Match 56.6%; Score 189; DB 5; Length 33;
XX Best Local Similarity 100.0%; Pred. No. 2.4e-16;
XX Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

AC AAU79860;
XX
XX 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #8.
XX
XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KM sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.
XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026868.
XX
PR 01-SEP-2000; 2000US-0230230P.
XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
DR WPI; 2002-383044/41.
XX
PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 97; 100pp; English.
XX
XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX
SQ Sequence 46 AA;
XX
XX Query Match 46.1%; Score 154; DB 5; Length 46;
XX Best Local Similarity 100.0%; Pred. No. 8.6e-12;
XX Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 9
AAU79860
ID AAU79860 standard; peptide; 46 AA.
XX

RESULT 10
AAU79863
ID AAU79863 standard; peptide; 49 AA.
XX
AC AAU79863;
XX
DT 15-JUL-2002 (first entry)
XX

DE Human cystatin-8 (Zcys8) antigenic fragment #11.
XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
XX spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KM sperm motility; fertilisation; antigenic peptide.
XX Homo sapiens.
OS WO200220567-A2.
PN 14-MAR-2002.
XX 29-AUG-2001; 2001WO-US026868.
PF 01-SEP-2000; 2000US-0230230P.
XX (ZYMO) ZYMOGENETICS INC.
XX (ZYMO) ZYMOGENETICS INC.
PI Holloway JL, Gao Z, Bishop PD;
XX WPI; 2002-383044/41.
DR Novel isolated mammalian cystatin-8 polypeptide useful for promoting
XX spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX Claim 2; Page 97-98; 100pp; English.
XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
XX polypeptide (1). (1) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antidiodes. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(1) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 gene.
CC The polynucleotide encoding (1) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (1) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX
SQ Sequence 49 AA;
Query Match 46.1%; Score 154; DB 5; Length 49;
Best Local Similarity 100.0%; Pred. No. 9.3e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 ROVTDHLEHYHNVEMQWTTCKPPTN 27
Db 23 ROVTDHLEHYHNVEMQWTTCKPPTN 49

RESULT 11
ADD46708
ID ADD46708 standard; protein; 142 AA.
XX ADD46708;
AC 29-JAN-2004 (first entry)
XX
DT
XX
DE Rat Protein AAC6317, SEQ ID NO 12393.
XX
XX Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury;
KM chronic constriction injury; CCI, spared nerve injury; SNI; Chung.

XX
OS Rattus norvegicus.
XX
PN WO2003016475-A2.
XX
XX 27-FEB-2003.
XX
XX 14-AUG-2002; 2002WO-US025765.
PF
XX 14-AUG-2001; 2001US-0312147P.
PR 01-NOV-2001; 2001US-0346382P.
XX 26-NOV-2001; 2001US-0333347P.
XX
PA (GENHO) GEN HOSPITAL CORP.
XX (FARB) BAYER AG.
PI WOOLF C, D'urso D, Befort K, Costigan M;
XX WPI; 2003-268312/26.
DR GENBANK; AAC6317.
XX
XX
PT New composition comprising two or more isolated polypeptides, useful for
PT preparing a medicament for treating pain in an animal.
XX
XX Claim 1; Page; 1017pp; English.
XX
XX The invention discloses a composition comprising two or more isolated rat
CC or human polynucleotides or a polynucleotide which represents a fragment.
CC derivative or allelic variation of the nucleic acid sequence. Also
CC claimed are a vector comprising the novel polynucleotide, a host cell
CC comprising the vector, a method for identifying a nucleotide sequence
CC which is differentially regulated in an animal subjected to pain and a
CC kit to perform the method, an array, a method for identifying an agent
CC that increases or decreases the expression of the polynucleotide sequence
CC that is differentially expressed in neuronal tissue of a first animal
CC subjected to pain, a method for identifying a compound which regulates
CC the expression of a polynucleotide sequence which is differentially
CC expressed in an animal subjected to pain, a method for identifying a
CC compound that regulates the activity of one or more of the
CC polynucleotides, a method for producing a pharmaceutical composition, a
CC method for identifying a compound or small molecule that regulates the
CC activity in an animal of one or more of the polypeptides given in the
CC specification, a method for identifying a compound useful in treating
CC pain and a pharmaceutical composition comprising the one or more
CC polypeptides or their antibodies. The polynucleotide or the compound that
CC modulates its activity is useful for preparing a medicament for treating
CC pain (e.g. spinal segmental nerve injury (Chung), chronic constriction
CC injury (CCI) and spared nerve injury (SNI)) in an animal (e.g. gene
CC therapy). The sequence presented is a rat protein (shown in Table 2 of
CC the specification) which is differentially expressed during pain. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic form directly from WIPO at
CC ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 142 AA;
Query Match 43.0%; Score 143.5; DB 7; Length 142;
Best Local Similarity 41.0%; Pred. No. 6.7e-10;
Matches 25; Conservative 19; Mismatches 14; Indels 3; Gaps 2;
OY 2 QVTDHLEHYHNVEMQWTTCKP--ETTNCVQQR-ELHKQVCFPSFAVWFQRYKILN 58
Db 77 QITDRMEYHIDVQISNSNCKPLNNTENCIPQKNPKLEKKSFLVGLPMNGEFDLLS 136

RESULT 12
ADD46704
ID ADD46704 standard; protein; 142 AA.
XX

AC ADD46704;
XX
XX
DT 29-JAN-2004 (first entry)
XX
DE Rat Protein AAC36317, SEQ ID NO 12389.
XX
KW Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury;
XX chronic constriction injury; CCI, spared nerve injury; SNI, Chung.
OS Rattus norvegicus.
XX
FN WO2003016475-A2.
PD 27-FEB-2003.
XX
PP 14-AUG-2002; 2002WO-US025765.
XX
PR 14-AUG-2001; 2001US-0312147P.
PR 01-NOV-2001; 2001US-0346382P.
PR 26-NOV-2001; 2001US-0333347P.
XX
PA (GEMO) GEN HOSPITAL CORP.
PA (FARB) BAYER AG.
XX
PI Woolf C, D'Urso D, Befort K, Costigan M;
DR WPI; 2003-268312/26.
DR GENBANK; AAC36317.
XX
PT New composition comprising two or more isolated polypeptides, useful for
PS preparing a medicament for treating pain in an animal.
XX
XX Claim 1; Page; 1017pp; English.

The invention discloses a composition comprising two or more isolated rat or human polynucleotides or a polynucleotide which represents a fragment, derivative or allelic variation of the nucleic acid sequence. Also claimed are a vector comprising the novel polynucleotide, a host cell comprising the vector, a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain and a kit to perform the method, an array, a method for identifying an agent that increases or decreases the expression of the polynucleotide sequence that is differentially expressed in neuronal tissue of a first animal subjected to pain, a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, a method for identifying a compound that regulates the activity of one or more of the polynucleotides, a method for producing a pharmaceutical composition, a method for identifying a compound or small molecule that regulates the activity in an animal of one or more of the polypeptides given in the specification, a method for identifying a compound useful in treating pain and a pharmaceutical composition comprising the one or more polypeptides or their antibodies. The polynucleotide or the compound that modulates its activity is useful for preparing a medicament for treating pain (e.g. spinal segmental nerve injury (Chung), chronic constriction injury (CCI) and spared nerve injury (SNI)) in an animal (e.g. gene therapy). The sequence presented is a rat protein (shown in Table 2 of the specification) which is differentially expressed during pain. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic form directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.

Sequence 142 AA;

Query Match 43.0%; Score 143.5; DB 7; Length 142;
Best Local Similarity 41.0%; Pred. No. 6.7e-10;
Matches 25; Conservative 19; Mismatches 14; Indels 3; Gaps 2

2 QVTDLLEYHLNVEMQWTTCKRP--ETTCVPGER-ELHKYVNCFPSVPVAFVEQYKILN 58
:::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|:
Db QITDMEHVIDIVQISRNCRKPLNTENCIRPKNKLEKKJSCSFLVGALPNNGSFLLS 136
77 :|||::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|:

59 K 59

```
Db      | 137 K 137  
|  
RESULT 13  
ID AAE02404 standard; protein; 142 AA.  
XX  
AC AAE02404;  
XX  
DT 10-AUG-2001 (first entry)  
XX  
DE Murine cystatin-related epididymal specific protein (CRS) .  
  
KW Murine; cystatin T; zcyg3; cystatin-related epididymal specific protein;  
KM CRS; inhibitor; cysteine protease; male reproductive tissue; testis;  
NN spermatogenesis; therapy; reproductive disorder.  
XX  
OS Mus musculus.  
XX  
PN US6235708-B1.  
PD  
PP 22-MAY-2001.  
PX  
PF 01-NOV-1999; 99US-00431480.  
PR 20-NOV-1998; 98US-0109217P.  
PS 28-SEP-1999; 99US-0156382P.  
PA (ZYMO ) ZYMOGENETICS INC.  
PI Holloway JL, Feldhaus AL;  
PM WPI; 2001-342846/36.  
DR  
PT Cystatin T polypeptides are useful for modulating spermatogenesis and  
pr studying, diagnosing and treating reproductive disorders.  
PS Disclosure; Col 45-46; 32pp; English.  
CC The present invention relates to cystatin T (also known as zcyg3) DNA and  
cc protein sequences. Cystatin T is testis specific and is homologous to  
cc cystatin-related epididymal specific gene (CRS) and type 2 cysatins.  
CC Cysteic acid inhibits cysteine proteinases and are found with male  
CC reproductive tissues and secretions. Cystatin T sequence is useful for  
CC modulating spermatogenesis and studying, diagnosing and treating  
CC reproductive disorders. The present sequence is murine cystatin-related  
cC epididymal specific (CRS) protein  
SQ Sequence 142 AA:  
  
Query Match          42.7%; Score 142.5; DB 4; Length 142;  
Best Local Similarity 41.0% ; Pred.No. 8.9e-10;  
Matches    25; Conservative   19; Mismatches    14; Indels     3; Gaps       2;  
QY        2 QVTDLLEYHLNVENQMWTTCQP--ETTNCVPQEELHKOVCFFSPFAVMFEQYLKLN 58  
         ||||::||:|||||:|||||:|||||::|||:::|  
DB        77 QTIRMEYOIDDVISRNSCKKLPLNTTENCIPDKRPLEKKWSCFLVGALPWNGEPMLLS 136  
         ||||::||:|||||:|||||:|||||::|||:::|  
QY        59 K 59  
         |  
DB        137 K 137  
  
RESULT 14  
ID AAE04433 standard; protein; 142 AA.  
XX  
AC AAE04433;  
XX  
DT 04-SEP-2001 (first entry)
```

XX WO2003068969-A1.
PN
XX
XX 21-AUG-2003.
PD
XX
PF 14-FEB-2003; 2003WO-JP001572.
PE
XX
XX 14-FEB-2002; 2002JP-00036649.
PR 27-DEC-2002; 2002JP-00381241.
PP
XX (NISC-) JAPAN SCI & TECHNOLOGY CORP.
PY
XX Nishimune Y, Tanaka H, Nozaki M,
PI
XX WPI; 2003-671663/63.
DR N-PSDB; ADA14477.
RX
XX Mouse spermatogenesis gene cluster and human male sterility associated
PT genes, useful for diagnosis of human male sterility and testing
PT substances for reproductive toxicity.

Claim 6, Page 155, 262pp; Japanese.

The present invention describes a mouse spermatogenesis gene cluster containing 89 genes (see the cDNA sequences of ADA14442 to ADA14530). Also described: (1) a cDNA library containing cDNA encoding the gene cluster; (2) oligonucleotides of 10-99 bases containing partial sequences of genes of the cluster; (3) microarrays containing these oligonucleotides; (4) primer sets for PCR amplification of cDNA or genomic DNA for genes of the cluster; (5) polypeptides encoded by the genes in the cluster; (6) antibodies to these polypeptides; (7) a method for testing the mutagenicity and reproductive toxicity of a test substance, and assessment of the reproductive capacity of a test individual, by analysis of mutation and expression abnormalities of genes in the cluster; (8) polynucleotides which are mutations of the human male sterility associated gene scot-t (nucclnyl CoA:3-oxo acid CoA transferase gene) having one or more of the following specific mutations: T129C, T870G, C1071T, T166T; (9) oligonucleotides containing partial sequences of human scot-t including one or more of the above mutations; (10) primer sets for PCR amplification of mRNA derived from the mutant scot-t gene; (11) polypeptides encoded by human scot-t gene and having one or more of the mutations Leu38Pro, Leu285Arg, Thr352Met; (12) polynucleotides which are mutations of the human male sterility associated gene protamine2, having C248T; (13) polypeptides encoded by this mutant protamine2 gene; (14) antibodies (including labelled antibodies) to these polypeptides; (15) a method for determining the presence or absence of these mutant polynucleotides in genomic DNA; (16) diagnosis of human male sterility using this method; (17) DNA probes containing sequences of these mutant polynucleotides; and (18) DNA chip containing sequences derived from these mutant polynucleotides. The methods of the present invention can be used in the diagnosis of human male sterility; testing the reproductive toxicity and mutagenicity of substances; and assessing the reproductive capacity of individuals. The present sequence represents a mouse spermatogenesis related protein, which is encoded by a cDNA sequence from the mouse spermatogenesis gene cluster.

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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:07:14 ; Search time 13.0837 Seconds

(Without alignments)
232,804 Million cell updates/sec

Title: US-09-941-314-16

Perfect score: 334
Sequence: 1 RQVTDHLEHNLNEMQWTTTC.....NCFPSVFAVPWFQYKILNK 59

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA: *
1: /cgn2_6/ptodata/2/1aa/5A COMB.pep: *
2: /cgn2_6/ptodata/2/1aa/5B COMB.pep: *
3: /cgn2_6/ptodata/2/1aa/6A COMB.pep: *
4: /cgn2_6/ptodata/2/1aa/6B COMB.pep: *
5: /cgn2_6/ptodata/2/1aa/PTUS COMB.pep: *
6: /cgn2_6/ptodata/2/1aa/backfile1.pep: *

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Match	Query Length	DB ID	Description
1	142.5	42.7	142	3	US-09-431-480-3 Sequence 3, Appl
2	142.5	42.7	142	3	US-09-617-302-3 Sequence 3, Appl
3	112.5	33.7	142	3	US-09-431-480-4 Sequence 4, Appl
4	112.5	33.7	142	3	US-09-617-302-4 Sequence 4, Appl
5	107.5	32.2	141	3	US-09-431-480-2 Sequence 2, Appl
6	107.5	32.2	141	3	US-09-617-302-2 Sequence 2, Appl
7	99.5	29.8	116	4	US-09-775-932-16 Sequence 16, Appl
8	99.5	29.8	139	2	US-08-791-522-4 Sequence 4, Appl
9	99.5	29.8	139	4	US-09-314-777-4 Sequence 4, Appl
10	99.5	29.8	139	4	US-08-849-303-15 Sequence 15, Appl
11	97.5	29.2	127	4	US-08-849-303-19 Sequence 19, Appl
12	93	27.8	146	6	5432264-6 Patent No. 5432264
13	90.5	27.1	130	6	US-09-775-932-2 Sequence 2, Appl
14	90.5	27.1	130	6	5432264-4 Patent No. 5432264
15	90.5	27.1	145	2	US-08-832-535-11 Sequence 11, Appl
16	90.5	27.1	146	2	US-08-791-522-3 Sequence 3, Appl
17	90.5	27.1	146	3	US-08-744-138-3 Sequence 3, Appl
18	90.5	27.1	146	3	US-09-019-485-4 Sequence 4, Appl
19	90.5	27.1	146	3	US-09-314-777-3 Sequence 3, Appl
20	90.5	27.1	146	3	US-09-431-480-6 Sequence 6, Appl
21	90.5	27.1	146	3	US-09-617-302-6 Sequence 6, Appl
22	90.5	27.1	146	4	US-09-241-376-3 Sequence 3, Appl
23	90.5	27.1	146	4	US-09-528-436B-3 Sequence 3, Appl
24	90.5	27.1	146	4	US-09-886-319A-47 Sequence 47, Appl
25	90.5	27.1	146	4	US-09-940-497-3 Sequence 3, Appl
26	90.5	27.1	146	4	US-09-976-594-37 Sequence 37, Appl
27	90.5	27.1	146	4	US-08-849-303-17 Sequence 17, Appl

28	90.5	27.1	146	5	PCT-US95-07135-9 Sequence 9, Appl
29	89.5	26.8	122	4	US-09-775-932-10 Sequence 10, Appl
30	89.5	26.8	142	3	US-08-744-138-4 Sequence 4, Appl
31	89.5	26.8	142	3	US-09-431-480-7 Sequence 7, Appl
32	89.5	26.8	142	3	US-09-617-302-7 Sequence 7, Appl
33	89.5	26.8	142	4	US-09-241-376-4 Sequence 4, Appl
34	89.5	26.8	142	4	US-09-940-497-4 Sequence 4, Appl
35	89.5	26.8	142	4	US-09-976-594-358 Sequence 358, App
36	89.5	26.8	142	4	US-08-849-303-20 Sequence 20, Appl
37	88.5	26.5	140	4	US-09-886-319A-46 Sequence 46, Appl
38	88.5	26.5	140	4	US-09-886-319A-48 Sequence 48, Appl
39	86.5	25.9	121	4	US-09-775-932-8 Sequence 8, Appl
40	86.5	25.9	141	3	US-08-744-138-6 Sequence 6, Appl
41	86.5	25.9	141	4	US-09-241-376-6 Sequence 6, Appl
42	86.5	25.9	141	4	US-09-940-497-6 Sequence 6, Appl
43	86.5	25.9	141	4	US-08-849-303-24 Sequence 24, Appl
44	86	25.7	145	2	US-08-832-535-2 Sequence 2, Appl
45	86	25.7	145	3	US-09-019-485-2 Sequence 2, Appl

ALIGNMENTS

```
RESULT 1
US-09-431-480-3
; Sequence 3, Application US/09431480
; Patent No. 6235708
; GENERAL INFORMATION:
; APPLICANT: Holloway, James L.
; TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
; FILE REFERENCE: 98-72
; CURRENT APPLICATION NUMBER: US/09/431,480
; CURRENT FILING DATE: 1999-11-01
; EARLIER APPLICATION NUMBER: 60/109,217
; EARLIER FILING DATE: 1998-11-20
; EARLIER APPLICATION NUMBER: 60/156,382
; EARLIER FILING DATE: 1999-09-28
; NUMBER OF SEQ. ID NOS: 22
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ. ID NO 3
; LENGTH: 142
; TYPE: PRT
; ORGANISM: Mus musculus
US-09-431-480-3

Query Match      42.7%; Score 142.5; DB 3; Length 142;
Best Local Similarity 41.0%; Pred. No. 1e-11;
Matches 25; Conservative 19; Mismatches 14; Indels 3; Gaps 2;

QY      2 QVTDHLEHNLNEMQWTTCKP--ETTNVCVQER-ELHKOVNCFPSVFAVPWFQYKILN 58
      77 QITDRMEYQIDVQISRSNCKKPIANTENCIPQKKPELEKMKSCSFLVGALPMNGEFLLS 136
QY      59 K 59
Db      137 K 137

RESULT 2
US-09-617-302-3
; Sequence 3, Application US/09617302
; Patent No. 6245529
; GENERAL INFORMATION:
; APPLICANT: Holloway, James L.
; TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
; FILE REFERENCE: 98-72 C1
; CURRENT APPLICATION NUMBER: US/09/617,302
; CURRENT FILING DATE: 2000-07-17
; PRIOR APPLICATION NUMBER: 09/431,480
; PRIOR FILING DATE: 1999-11-01
; PRIOR APPLICATION NUMBER: 60/109,217
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PRIOR FILING DATE: 1998-11-20
PRIOR APPLICATION NUMBER: 60/156,382
PRIOR FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 3
LENGTH: 142
TYPE: PRT
ORGANISM: Mus musculus
US-09-617-302-3

Query Match 42.7%; Score 142.5; DB 3; Length 142;
Best Local Similarity 41.0%; Pred. No. 1e-11;
Matches 25; Conservative 19; Mismatches 14; Indels 3; Gaps 2;

QY 2 QVTDHLEHNLNEMQWTTCKP--ETNVCVPOER-ELHKVNCFFSVFVAPWFEQYKILN 58
DB 77 QVTDHLEHNLNEMQWTTCKP--ETNVCVPOER-ELHKVNCFFSVFVAPWFEQYKILN 136

QY 59 K 59
DB 137 K 137

RESULT 3
US-09-431-480-4
Sequence 4, Application US/09431480
Patent No. 6235708
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72
CURRENT APPLICATION NUMBER: US/09/431,480

CURRENT FILING DATE: 1999-11-01
EARLIER APPLICATION NUMBER: 60/109,217
EARLIER FILING DATE: 1998-11-20
EARLIER APPLICATION NUMBER: 60/156,382
EARLIER FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 4
LENGTH: 142
TYPE: PRT
ORGANISM: Homo sapiens
US-09-431-480-4

Query Match 33.7%; Score 112.5; DB 3; Length 142;
Best Local Similarity 39.3%; Pred. No. 1.2e-07;
Matches 24; Conservative 17; Mismatches 17; Indels 3; Gaps 2;

QY 2 QVTDHLEHNLNEMQWTTCKP--ETNVCVPOER-ELHKVNCFFSVFVAPWFEQYKILN 58
DB 77 QVTDHLEHNLNEMQWTTCKP--ETNVCVPOER-ELHKVNCFFSVFVAPWFEQYKILN 136

QY 59 K 59
DB 137 K 137

RESULT 4
US-09-617-302-4
Sequence 4, Application US/09617302
Patent No. 6245529
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72 C1
CURRENT APPLICATION NUMBER: US/09/617,302
CURRENT FILING DATE: 2000-07-17
PRIOR APPLICATION NUMBER: 09/431,480
PRIOR FILING DATE: 1999-11-01

PRIOR APPLICATION NUMBER: 60/109,217
PRIOR FILING DATE: 1998-11-20
PRIOR APPLICATION NUMBER: 60/156,382
PRIOR FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 4
LENGTH: 142
TYPE: PRT
ORGANISM: Homo sapiens
US-09-617-302-4

Query Match 33.7%; Score 112.5; DB 3; Length 142;
Best Local Similarity 39.3%; Pred. No. 1.2e-07;
Matches 24; Conservative 17; Mismatches 17; Indels 3; Gaps 2;

QY 2 QVTDHLEHNLNEMQWTTCKP--ETNVCVPOER-ELHKVNCFFSVFVAPWFEQYKILN 58
DB 77 QVTDHLEHNLNEMQWTTCKP--ETNVCVPOER-ELHKVNCFFSVFVAPWFEQYKILN 136

QY 59 K 59
DB 137 K 137

RESULT 5
US-09-431-480-2
Sequence 2, Application US/09431480
Patent No. 6235708
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72
CURRENT APPLICATION NUMBER: US/09/431,480

CURRENT FILING DATE: 1999-11-01
EARLIER APPLICATION NUMBER: 60/109,217
EARLIER FILING DATE: 1998-11-20
EARLIER APPLICATION NUMBER: 60/156,382
EARLIER FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 2
LENGTH: 141
TYPE: PRT
ORGANISM: Homo sapiens
US-09-431-480-2

Query Match 32.2%; Score 107.5; DB 3; Length 141;
Best Local Similarity 39.3%; Pred. No. 5.6e-07;
Matches 24; Conservative 12; Mismatches 22; Indels 3; Gaps 2;

QY 2 QVTDHLEHNLNEMQWTTCKP--ETNVCVPOER-ELHKVNCFFSVFVAPWFEQYKILN 58
DB 76 QVTDHLEHNLNEMQWTTCKP--ETNVCVPOER-ELHKVNCFFSVFVAPWFEQYKILN 135

QY 59 K 59
DB 136 K 136

RESULT 6
US-09-617-302-2
Sequence 2, Application US/09617302
Patent No. 6245529
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72 C1
CURRENT APPLICATION NUMBER: US/09/617,302
CURRENT FILING DATE: 2000-07-17
PRIOR APPLICATION NUMBER: 09/431,480

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; PRIOR FILING DATE: 1999-11-01
; PRIOR APPLICATION NUMBER: 60/109,217
; PRIOR FILING DATE: 1998-11-20
; PRIOR APPLICATION NUMBER: 60/156,382
; PRIOR FILING DATE: 1999-09-28
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: FASTSEQ for Windows Version 3.0
; SEQ ID NO 2
; LENGTH: 141
; TYPE: prt
; ORGANISM: Homo sapiens
; US-09-617-302-2

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Query Match Similarity      32.2% Score 107.5; DB 3; length 141;  
Best Local Similarity     39.3%; Pred. No. 5,6e-07;  
Matches      24; Conservative    12; Mismatches   22; Indels    3; Gaps    2  
  
QY       2 QVTDHLAEYLHNVEMOMTTCOK--PEPTNCV-PQERELHKQNVCFSVFAPWFEQQYLIN 58  
         |||||:|||::|::|::|::|::|::|::|::|::|::|::|::|:  
Db        76 QITSLSELYLEVNARTACTCKIAGNENCLPQDDPKMKMKNVCIFIVSSKPKFELKKILK 135  
                                         |  
QY          59 K 59  
Db          136 K 136
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RESULT 7
US-09-775-932-16
: Sequence 16, Application US/09775932
: Patent No. 6534477
: GENERAL INFORMATION:
: APPLICANT: University of British Columbia
: TITLE OF INVENTION: Production and use of Modified Cystatins
: FILE REFERENCE: 58069
: CURRENT APPLICATION NUMBER: US/09/775,932
: CURRENT FILING DATE: 2001-02-02
: PRIOR APPLICATION NUMBER: CA99/00717
: PRIOR FILING DATE: 1999-08-05
: PRIOR APPLICATION NUMBER: 60/095,503
: PRIOR FILING DATE: 1998-08-05
: NUMBER OF SEQ ID NOS: 32
: SOFTWARE: PatentIn Ver. 2.0
: SEQ ID NO 16
: LENGTH: 116
: TYPE: prt
: ORGANISM: Gallus sp.
US-09-775-932-16

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RESULT 8
 US-08-791-522-4
 ; Sequence 4, Application US/08791522
 ; Patent No. 5935817
 ; GENERAL INFORMATION:
 ; APPLICANT: Bandman, Olga
 ; APPLICANT: Golil, Surya K.
 ; TITLE OF INVENTION: NOVEL HUMAN CYSTATIN-LIKE
 ; TITLE OF INVENTION: PROTEIN
 ; NUMBER OF SEQUENCES: 4
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Incyte Pharmaceuticals, Inc.
 ; STREET: 3174 Porter Drive
 ; CITY: Palo Alto
 ; STATE: CA
 ; COUNTRY: USA

```

1 ZIP: 94304
2
3 COMPUTER READABLE FORM:
4
5 MEDIUM TYPE: Diskette
6
7 COMPUTER: IBM Compatible
8
9 OPERATING SYSTEM: DOS
10
11 SOFTWARE: Fastseq for Windows Version 2.0
12
13 CURRENT APPLICATION DATA:
14
15 APPLICATION NUMBER: US/08/791,522
16
17 FILING DATE: Filed Herewith
18
19 CLASSIFICATION: 514
20
21 PRIOR APPLICATION DATA:
22
23 APPLICATION NUMBER:
24
25 FILING DATE:
26
27 ATTORNEY/AGENT INFORMATION:
28
29 NAME: Billings, Lucy J.
30
31 REGISTRATION NUMBER: 36,749
32
33 REFERENCE/DOCKET NUMBER: PP-0193 US
34
35 TELECOMMUNICATION INFORMATION:
36
37 TELEPHONE: 415-855-0555
38
39 TELEFAX: 415-845-4166
40
41 INFORMATION FOR SEQ ID NO: 4:
42
43 SEQUENCE CHARACTERISTICS:
44
45 LENGTH: 139 amino acids
46
47 TYPE: amino acid
48
49 STRADEDNESS: single
50
51 TOPOLOGY: linear
52
53 IMMEDIATE SOURCE:
54
55 LIBRARY: Genbank
56
57 CLONE: 118195
58
59 US-08-19552-4

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Query Match      29.8%  Score 99.5; DB 2; length 139;
Best Local Similarity 36.7%  Pred. No. 6; 7-06;
Matches 22; Conservative 11; Mismatches 24; Indels 3; Gaps 2;

QY      1 RQVTDHLEHIANVMQMTTQCKP--ETTNC-VPERERLHQVQCFSEVFAVPMVEQKIL 57
          |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  |||
DB      75 RQVSGKIKYIQVIGIGTCKSGSDQSCFHHDEPMFAKTYTTTFVAVISPMNQIKLL 134

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RESULT 9
 US-09-314-777-4
 Sequence 4, Application US/09314777
 Patent No. 6110686
 GENERAL INFORMATION:
 APPLICANT: Bandman, Olga
 APPLICANT: Goll, Surya K.
 TITLE OF INVENTION: NOVEL HUMAN CYSTATIN-LIKE
 TITLE OF INVENTION: PROTEIN
 NUMBER OF SEQUENCES: 4
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: Incyte Pharmaceuticals, Inc.
 STREET: 3174 Porter Drive
 CITY: Palo Alto
 STATE: CA
 COUNTRY: USA
 ZIP: 94304
 COMPUTER READABLE FORM:
 MEDIUM TYPE: Diskette
 COMPUTER: IBM Compatible
 OPERATING SYSTEM: DOS
 SOFTWARE: FASTSEQ for Windows Version 2.0
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/09/314,777
 FILING DATE:
 CLASSIFICATION:
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: 08/791,522
 FILING DATE:
 ATTORNEY/AGENT INFORMATION:
 NAME: Billings, Lucy J.
 REGISTRATION NUMBER: 36,749
 REFERENCE/DOCKET NUMBER: PF-0193 US

TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
TELEFAX: 415-845-4166
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 139 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
IMMEDIATE SOURCE:
LIBRARY: GenBank
CLONE: 118195
US-09-314-777-4

Query Match 29.8%; Score 99.5; DB 3; Length 139;
Best Local Similarity 36.7%; Pred. No. 6.7e-06;
Matches 22; Conservative 11; Mismatches 24; Indels 3; Gaps 2;

QY 1 RQVTDHLEHLYNEMQWTTCKP--ETTNC-VPOERELHKQVNCFFSVFVPMFEQYKIL 57
DB 75 RQVSGIKYILQVEIGRTTCPSKSGDLQSCFHFDEPMAYTCTTFVYSIPMLNQIKL 134

RESULT 10
US-08-849-303-15
Sequence 15, Application US/08849303
Patent No. 6680424
GENERAL INFORMATION:
APPLICANT: Atkinson, Howard J.
APPLICANT: McPherson, Michael J.
APPLICANT: Urwin, Peter E.
TITLE OF INVENTION: MODIFIED PROTEINASE INHIBITORS
NUMBER OF SEQUENCES: 79
CORRESPONDENCE ADDRESS:
ADDRESSER: Klauber & Jackson
STREET: 411 Hackensack Avenue, 4th Floor
CITY: Hackensack
STATE: New Jersey
COUNTRY: USA
ZIP: 07601
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/849,303
FILING DATE: 21-MAY-1997
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Jackson Bag., David A.
REGISTRATION NUMBER: 26,742
REFERENCE/DOCKET NUMBER: 1321-1-003
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-487-5800
TELEFAX: 201-343-1684
TELEX: 133521
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 139 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHEICAL: NO
US-08-849-303-15

Query Match 29.8%; Score 99.5; DB 4; Length 139;
Best Local Similarity 36.7%; Pred. No. 6.7e-06;
Matches 22; Conservative 11; Mismatches 24; Indels 3; Gaps 2;
QY 1 RQVTDHLEHLYNEMQWTTCKP--ETTNC-VPOERELHKQVNCFFSVFVPMFEQYKIL 57
DB 75 RQVSGIKYILQVEIGRTTCPSKSGDLQSCFHFDEPMAYTCTTFVYSIPMLNQIKL 134

DB 75 RQVSGIKYILQVEIGRTTCPSKSGDLQSCFHFDEPMAYTCTTFVYSIPMLNQIKL 134

RESULT 11
US-08-849-303-19
Sequence 19, Application US/08849303
Patent No. 6680424
GENERAL INFORMATION:
APPLICANT: Atkinson, Howard J.
APPLICANT: McPherson, Michael J.
APPLICANT: Urwin, Peter E.
TITLE OF INVENTION: MODIFIED PROTEINASE INHIBITORS
NUMBER OF SEQUENCES: 79
CORRESPONDENCE ADDRESS:
ADDRESSER: Klauber & Jackson
STREET: 411 Hackensack Avenue, 4th Floor
CITY: Hackensack
STATE: New Jersey
COUNTRY: USA
ZIP: 07601
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/849,303
FILING DATE: 21-MAY-1997
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Jackson Bag., David A.
REGISTRATION NUMBER: 26,742
REFERENCE/DOCKET NUMBER: 1321-1-003
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-487-5800
TELEFAX: 201-343-1684
TELEX: 133521
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 127 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHEICAL: NO
US-08-849-303-19

Query Match 29.2%; Score 97.5; DB 4; Length 127;
Best Local Similarity 37.7%; Pred. No. 1.1e-05;
Matches 20; Conservative 12; Mismatches 18; Indels 3; Gaps 2;

QY 1 RQVTDHLEHLYNEMQWTTCKP--TNC-VPOERELHKQVNCFFSVFVPM 50
DB 61 RQVAGINLYLDVEMGRTTCKSQTNLNCPPHDQPLNKALCSFOITSVP 113

RESULT 12
5432264-6
Patent No. 5432264
APPLICANT: GRUBB, ANDERS; LUNDWALL, AKE; ABRAHAMSON, MAGNUS;
DALBOGE, HENRIK
TITLE OF INVENTION: RECOMBINANT 3-DES-OH-CYSTATIN C PRODUCED
BY EXPRESSION IN A PROCARYOTIC HOST CELL
NUMBER OF SEQUENCES: 8
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/929,290
FILING DATE: 13-AUG-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,221
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 297,198
FILING DATE: 20-MAY-1988
SEQ ID NO: 6;

LENGTH: 146
5432264-6

Query Match 27.1%; Score 93; DB 6; Length 146;
Best Local Similarity 35.8%; Pred. No. 5.4e-05;
Matches 22; Conservative 12; Mismatches 24; Indels 4; Gaps 3;

QY 1 RQVTDHLEHLYANVEMQWTTCK--PETTNC-VPOERELHKOVCFFSVFAVPW 57
DB 80 KQIVAGVNYFLDVELGRTTCTKTQPNLNDNCPFHQPHLKRKAFCSFOIYAVPW-QQTMWL 138

QY 58 NK 59
DB 139 SK 140

RESULT 13
US-09-775-932-2
Sequence 2, Application US/09775932
Patent No. 6534477

GENERAL INFORMATION:

APPLICANT: University of British Columbia
TITLE OF INVENTION: Production and use of Modified Cystatins

FILE REFERENCE: 58069

CURRENT APPLICATION NUMBER: US/09/775,932

PRIOR FILING DATE: 2001-02-02

PRIOR FILING DATE: 1999-08-05

PRIOR APPLICATION NUMBER: 60/095,503

PRIOR FILING DATE: 1998-08-05

NUMBER OF SEQ ID NOS: 32

SOFTWARE: Patentln Ver. 2.0

SEQ ID NO 2

LENGTH: 120

TYPE: PRT

ORGANISM: Homo sapiens

US-09-775-932-2

Query Match 27.1%; Score 90.5; DB 4; Length 120;
Best Local Similarity 35.8%; Pred. No. 9.3e-05;
Matches 19; Conservative 10; Mismatches 21; Indels 3; Gaps 2;

QY 1 RQVTDHLEHLYANVEMQWTTCK--PETTNC-VPOERELHKOVCFFSVFAVPW 50
DB 54 KQIVAGVNYFLDVELGRTTCTKTQPNLNDNCPFHQPHLKRKAFCSFOIYAVPW 106

RESULT 14
5432264-4
Patent No. 5432264
APPLICANT: GRUBB, ANDERS; LUNDQVALL, AKE; ABRAHAMSON, MAGNUS;
DALBOE, HENRIK
TITLE OF INVENTION: RECOMBINANT 3-DES-OH-CYSTATIN C PRODUCED
BY EXPRESSION IN A PROCAROTIC HOST CELL
NUMBER OF SEQUENCES: 8
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/929,290
FILING DATE: 13-AUG-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 440,221
FILING DATE: 21-NOV-1989
APPLICATION NUMBER: 297,198
FILING DATE: 20-MAY-1988
SEQ ID NO: 4
LENGTH: 120
5432264-4

Query Match 27.1%; Score 90.5; DB 6; Length 120;
Best Local Similarity 35.8%; Pred. No. 9.3e-05;
Matches 19; Conservative 10; Mismatches 21; Indels 3; Gaps 2;
QY 1 RQVTDHLEHLYANVEMQWTTCK--PETTNC-VPOERELHKOVCFFSVFAVPW 50
DB 54 KQIVAGVNYFLDVELGRTTCTKTQPNLNDNCPFHQPHLKRKAFCSFOIYAVPW 106

DB 54 KQIVAGVNYFLDVELGRTTCTKTQPNLNDNCPFHQPHLKRKAFCSFOIYAVPW 106

RESULT 15
US-08-832-535-11
Sequence 11, Application US/08832535
Patent No. 5919658

GENERAL INFORMATION:

APPLICANT: NI, JIAN

APPLICANT: LI, HAODONG

APPLICANT: YU, GUO-LIANG

APPLICANT: GENTZ, REINER J

TITLE OF INVENTION: HUMAN CYSTATIN F

NUMBER OF SEQUENCES: 11

CORRESPONDENCE ADDRESS:

ADDRESSEE: HUMAN GENOME SCIENCES, INC.

STREET: 9410 KEY WEST AVENUE

CITY: ROCKVILLE

STATE: MD

COUNTRY: US

ZIP: 20850

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentln Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/832,535

FILING DATE: 03-APR-1997

CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:

NAME: KIMBALL, PAUL C

REGISTRATION NUMBER: 34,610

REFERENCE/DOCKET NUMBER: PF265

TELECOMMUNICATION INFORMATION:

TELEPHONE: (201) 994-1700

TELEFAX: (201) 994-1744

INFORMATION FOR SEQ ID NO: 11:

SEQUENCE CHARACTERISTICS:

LENGTH: 145 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

US-08-832-535-11

Query Match 27.1%; Score 90.5; DB 2; Length 145;
Best Local Similarity 35.8%; Pred. No. 0.00012;
Matches 19; Conservative 10; Mismatches 21; Indels 3; Gaps 2;
QY 1 RQVTDHLEHLYANVEMQWTTCK--PETTNC-VPOERELHKOVCFFSVFAVPW 50
DB 80 KQIVAGVNYFLDVELGRTTCTKTQPNLNDNCPFHQPHLKRKAFCSFOIYAVPW 132

Search completed: March 23, 2004, 17:15:30
Job time: 13.0837 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: March 23, 2004, 17:10:34 ; Search time 31.8452 Seconds
(without alignments)
479.770 Million cell updates/sec

Title: US-09-941-314-16

Perfect score: 334

Sequence: 1 RQVTDHLEHNLNEMQWTC.....NCFSVFAVPWFQYKILNK 59

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Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	334	100.0	59	9	US-09-941-314-16	Sequence 16, Appl
2	334	100.0	80	9	US-09-941-314-15	Sequence 3, Appl
3	334	100.0	115	9	US-09-941-314-3	Sequence 1, Appl
4	334	100.0	117	9	US-09-941-314-4	Sequence 4, Appl
5	334	100.0	137	9	US-09-941-314-2	Sequence 2, Appl
6	273	81.7	48	9	US-09-941-314-17	Sequence 17, Appl
7	194	58.1	52	9	US-09-941-314-14	Sequence 14, Appl
8	189	56.6	33	9	US-09-941-314-12	Sequence 12, Appl
9	154	46.1	46	9	US-09-941-314-10	Sequence 10, Appl
10	154	46.1	49	9	US-09-941-314-13	Sequence 13, Appl
11	138	41.3	24	9	US-09-941-314-11	Sequence 11, Appl
12	111	33.2	145	9	US-09-740-638-2	Sequence 2, Appl
13	111	33.2	145	13	US-10-006-467-2	Sequence 2, Appl
14	111	33.2	145	14	US-10-235-148-2	Sequence 2, Appl
15	111	33.2	165	9	US-09-740-638-5	Sequence 5, Appl

16	111	33.2	165	13	US-10-006-467-5	Sequence 5, Appl
17	111	33.2	165	14	US-10-235-148-5	Sequence 5, Appl
18	106	31.7	145	14	US-10-168-425-14	Sequence 14, Appl
19	99.5	29.8	116	9	US-09-775-932-16	Sequence 16, Appl
20	99.5	29.8	139	8	US-08-849-303-15	Sequence 15, Appl
21	99.5	29.8	139	9	US-09-969-834-4	Sequence 4, Appl
22	97.5	29.2	148	12	US-10-257-174-42	Sequence 42, Appl
23	97.5	29.2	137	8	US-08-849-303-19	Sequence 19, Appl
24	97	29.0	138	14	US-10-239-135-37	Sequence 37, Appl
25	96.5	28.9	138	10	US-09-873-135-2	Sequence 2, Appl
26	94	28.1	132	9	US-09-921-180-2	Sequence 2, Appl
27	90.5	27.1	130	9	US-09-775-932-2	Sequence 2, Appl
28	90.5	27.1	146	8	US-08-849-303-17	Sequence 17, Appl
29	90.5	27.1	146	9	US-09-940-497-3	Sequence 3, Appl
30	90.5	27.1	146	9	US-09-969-834-3	Sequence 3, Appl
31	90.5	27.1	146	14	US-10-329-428-3	Sequence 3, Appl
32	90.5	27.1	146	14	US-10-376-564-47	Sequence 47, Appl
33	89.5	26.8	122	9	US-09-775-932-10	Sequence 10, Appl
34	89.5	26.8	142	8	US-08-849-303-20	Sequence 20, Appl
35	89.5	26.8	142	9	US-09-940-497-4	Sequence 4, Appl
36	89.5	26.8	142	12	US-10-262-839-132	Sequence 132, App
37	88.5	26.5	140	14	US-10-376-564-46	Sequence 46, Appl
38	88.5	26.5	140	14	US-10-376-564-48	Sequence 48, Appl
39	86.5	25.9	141	9	US-09-775-932-8	Sequence 8, Appl
40	86.5	25.9	141	8	US-08-849-303-24	Sequence 24, Appl
41	86.5	25.9	141	8	US-09-940-497-6	Sequence 6, Appl
42	86	25.7	145	14	US-10-329-428-2	Sequence 2, Appl
43	86	25.7	167	10	US-09-746-783-197	Sequence 197, App
44	84.5	25.3	140	8	US-08-849-303-18	Sequence 18, Appl
45	83.5	25.0	96	12	US-10-351-334-334	Sequence 334, App

ALIGNMENTS

RESULT 1
US-09-941-314-16
Sequence 16, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
Inhibit Cancer Procoagulant Protein
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 16
LENGTH: 59
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-16

Query Match 100.0%; Score 334; DB 9; Length 59;
Best Local Similarity 100.0%; Pred. No. 3.8e-35;
Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 RQVTDHLEHNLNEMQWTCOKPDTTCVPOERLHKQVCFPSVFAVPWFQYKILNK 59
DB 1 RQVTDHLEHNLNEMQWTCOKPDTTCVPOERLHKQVCFPSVFAVPWFQYKILNK 59

RESULT 2
US-09-941-314-15
Sequence 15, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
Inhibit Cancer Procoagulant Protein

FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 15
LENGTH: 80
TYPE: PRF
ORGANISM: Homo sapiens
US-09-941-314-15

Query Match 100.0%; Score 334; DB 9; Length 80;
Best Local Similarity 100.0%; Pred. No. 5,4e-35;
Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 RQVTDHLEHYHLNVMQWTTCCQKPEPTTNCVPOERELHKQVNCFFSVFVAVPWFEOYKIINK 59
DB 22 RQVTDHLEHYHLNVMQWTTCCQKPEPTTNCVPOERELHKQVNCFFSVFVAVPWFEOYKIINK 80

RESULT 3
US-09-941-314-3
Sequence 3, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 3
LENGTH: 115
TYPE: PRF
ORGANISM: Homo sapiens
US-09-941-314-3

Query Match 100.0%; Score 334; DB 9; Length 115;
Best Local Similarity 100.0%; Pred. No. 8,2e-35;
Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 RQVTDHLEHYHLNVMQWTTCCQKPEPTTNCVPOERELHKQVNCFFSVFVAVPWFEOYKIINK 59
DB 52 RQVTDHLEHYHLNVMQWTTCCQKPEPTTNCVPOERELHKQVNCFFSVFVAVPWFEOYKIINK 110

RESULT 4
US-09-941-314-4
Sequence 4, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 4
LENGTH: 117
TYPE: PRF
ORGANISM: Homo sapiens
US-09-941-314-4

Query Match 100.0%; Score 334; DB 9; Length 117;
Best Local Similarity 100.0%; Pred. No. 8,3e-35;
Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 RQVTDHLEHYHLNVMQWTTCCQKPEPTTNCVPOERELHKQVNCFFSVFVAVPWFEOYKIINK 59
DB 54 RQVTDHLEHYHLNVMQWTTCCQKPEPTTNCVPOERELHKQVNCFFSVFVAVPWFEOYKIINK 112

RESULT 5
US-09-941-314-2
Sequence 2, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 137
TYPE: PRF
ORGANISM: Homo sapiens
US-09-941-314-2

Query Match 100.0%; Score 334; DB 9; Length 137;
Best Local Similarity 100.0%; Pred. No. 1e-34;
Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 RQVTDHLEHYHLNVMQWTTCCQKPEPTTNCVPOERELHKQVNCFFSVFVAVPWFEOYKIINK 59
DB 74 RQVTDHLEHYHLNVMQWTTCCQKPEPTTNCVPOERELHKQVNCFFSVFVAVPWFEOYKIINK 132

RESULT 6
US-09-941-314-17
Sequence 17, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 17
LENGTH: 48
TYPE: PRF
ORGANISM: Homo sapiens
US-09-941-314-17

Query Match 81.7%; Score 273; DB 9; Length 48;
Best Local Similarity 100.0%; Pred. No. 1,9e-27;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 12 NVEMQWTTCCQKPEPTTNCVPOERELHKQVNCFFSVFVAVPWFEOYKIINK 59
DB 1 NVEMQWTTCCQKPEPTTNCVPOERELHKQVNCFFSVFVAVPWFEOYKIINK 48

RESULT 7
US-09-941-314-14
Sequence 14, Application US/09941314
Patent No. US20020142396A1


```
; GENERAL INFORMATION:
; APPLICANT: ZymoGenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; CURRENT FILING DATE: 2001-08-29
; PRIOR APPLICATION NUMBER: 60/230,230
; PRIOR FILING DATE: 2001-09-01
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 14
; LENGTH: 52
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-14

Query Match          58.1%; Score 194; DB 9; Length 52;
Best Local Similarity 100.0%; Pred. No. 2.5e-17;
Matches 34; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      1 ROVTDHLEHYHNVEMQWTTCKPPTTNCVPOERE 34
Db      19 ROVTDHLEHYHNVEMQWTTCKPPTTNCVPOERE 52

RESULT 8
US-09-941-314-12
; Sequence 12, Application US/09941314
; Patent No. US20020142396A1
; GENERAL INFORMATION:
; APPLICANT: ZymoGenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; CURRENT FILING DATE: 2001-08-29
; PRIOR APPLICATION NUMBER: 60/230,230
; PRIOR FILING DATE: 2001-09-01
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 12
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-12

Query Match          56.6%; Score 189; DB 9; Length 33;
Best Local Similarity 100.0%; Pred. No. 6.6e-17;
Matches 33; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      2 QVTDHLEHYHNVEMQWTTCKPPTTNCVPOERE 34
Db      1 QVTDHLEHYHNVEMQWTTCKPPTTNCVPOERE 33

RESULT 9
US-09-941-314-10
; Sequence 10, Application US/09941314
; Patent No. US20020142396A1
; GENERAL INFORMATION:
; APPLICANT: ZymoGenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; CURRENT FILING DATE: 2001-08-29
; PRIOR APPLICATION NUMBER: 60/230,230
; PRIOR FILING DATE: 2001-09-01
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 46
```

```
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-10

Query Match          46.1%; Score 154; DB 9; Length 46;
Best Local Similarity 100.0%; Pred. No. 2.9e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      1 ROVTDHLEHYHNVEMQWTTCKPPTTN 27
Db      20 ROVTDHLEHYHNVEMQWTTCKPPTTN 46

RESULT 10
US-09-941-314-13
; Sequence 13, Application US/09941314
; Patent No. US20020142396A1
; GENERAL INFORMATION:
; APPLICANT: ZymoGenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; CURRENT FILING DATE: 2001-08-29
; PRIOR APPLICATION NUMBER: 60/230,230
; PRIOR FILING DATE: 2001-09-01
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 13
; LENGTH: 49
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-13

Query Match          46.1%; Score 154; DB 9; Length 49;
Best Local Similarity 100.0%; Pred. No. 3.1e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      1 ROVTDHLEHYHNVEMQWTTCKPPTTN 27
Db      23 ROVTDHLEHYHNVEMQWTTCKPPTTN 49

RESULT 11
US-09-941-314-11
; Sequence 11, Application US/09941314
; Patent No. US20020142396A1
; GENERAL INFORMATION:
; APPLICANT: ZymoGenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; CURRENT FILING DATE: 2001-08-29
; PRIOR APPLICATION NUMBER: 60/230,230
; PRIOR FILING DATE: 2001-09-01
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 11
; LENGTH: 24
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-11

Query Match          41.3%; Score 138; DB 9; Length 24;
Best Local Similarity 100.0%; Pred. No. 1.5e-10;
Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      1 ROVTDHLEHYHNVEMQWTTCKPKE 24
Db      1 ROVTDHLEHYHNVEMQWTTCKPKE 24
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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:06:09 ; Search time 10.8619 seconds
(without alignments)
522.495 Million cell updates/sec

Title: US-09-941-314-16
Perfect score: 334
Sequence: 1 RQVTDHLEHYLVNEMQWTC.....NCFPSVFAVPMFEQYKILNK 59

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

1: PIR.78:.*
2: PIR2:.*
3: PIR3:.*
4: PIR4:.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	142.5	42.7	139	2 A45361	cystatin-related e
2	99.5	29.8	139	1 UDCH	cystatin precursor
3	97.5	29.2	120	2 S10587	cystatin C - rat
4	97.5	29.2	127	2 S07085	cystatin C precurs
5	90.5	27.1	146	1 UDHU	cystatin C precurs
6	89.5	26.8	142	2 A47142	cystatin D precurs
7	86.5	25.9	141	2 B29632	cystatin SA precur
8	84.5	25.3	140	2 A36163	cystatin C precurs
9	83	24.9	111	2 A28793	cystatin - puff ad
10	82.5	24.7	112	1 UDHO	cystatin - bovine
11	82.5	24.7	141	1 UDHUP1	cystatin S precurs
12	77.5	23.2	141	1 UDHUP2	cystatin SN precur
13	72	21.6	111	1 UC2040	cystatin - chum sa
14	69	20.7	1779	2 T23130	hypothetical prote
15	68.5	20.5	434	1 KGBOL2	kininogen, LMW II
16	68.5	20.5	619	1 KGBOL2	kininogen, LMW II
17	67.5	20.2	436	1 KGBOL1	kininogen, LMW I
18	67.5	20.2	621	1 KGBOL1	kininogen, LMW I
19	64	19.2	132	2 UC4918	cystatin precursor
20	63.5	19.0	427	1 KGHU1	kininogen, LMW pre
21	63.5	19.0	644	1 KGHU1	kininogen, LMW pre
22	63	18.9	141	2 JQ1470	kininogen, HMW pre
23	60	18.0	3411	1 GNMVY	cystatin S precurs
24	60	18.0	3411	1 GNMVY	genome polypeptide
25	59.5	17.8	1275	1 T49362	hypothetical prote
26	59	17.7	426	2 A40440	endothelin 1 and 2
27	58.5	17.5	164	2 C90442	conserved hypotnet
28	58.5	17.5	447	2 T19078	hypothetical prote
29	58	17.4	302	2 B96520	hypothetical prote

30	57	17.1	455	2 T15622	hypothetical prote
31	56.5	16.9	324	2 T41379	probable phosphati
32	56	16.8	325	2 C43718	hypothetical prote
33	56	16.8	367	2 E75384	conserved hypotnet
34	56	16.8	427	2 A44158	endothelin recepto
35	56	16.8	427	2 S13424	probable chromosom
36	56	16.8	1163	2 F84669	hypothetical prote
37	55.5	16.6	555	2 T24671	hypothetical prote
38	55.5	16.6	938	2 T41932	hypothetical prote
39	55.5	16.6	4540	2 T30838	cytoplasmic dynein
40	55	16.5	174	1 TVVPA4	small T antigen -
41	55	16.5	213	2 B84333	isopenentenyl pyroph
42	55	16.5	218	2 A34445	25K calcium-bindin
43	55	16.5	560	2 S27387	interferon alpha r
44	54.5	16.3	243	1 JQ0021	ubiquitin-cytochro
45	54.5	16.3	293	2 A40644	transcription regu

ALIGNMENTS

RESULT 1

A45361
cystatin-related epididymal specific protein - mouse (fragment)
C:Species: Mus musculus (house mouse)
C>Date: 10-Jun-1993 #sequence_revision 18-Nov-1994 #text_change 05-Nov-1999
C:Accession: A45361
R:Corwall, G.A.; Orgebin-Crist, M.C.; Hann, S.R.
Mol. Endocrinol. 6, 1653-1664, 1992
A:Title: The CREB gene: a unique testis-regulated gene related to the cystatin family is
A:Reference number: A45361; MUID:33078799; PMID:1280328
A:Accession: A45361
A:Status: Preliminary; not compared with conceptual translation
A:Molecule type: nucleic acid
A:Residues: 1-139 <COR>
A:Cross-references: GB:849926; NID:9260492; PIDN:AAC35390.1; PID:9260493
A:Note: sequence extracted from NCBI backbone (NCBI:P:118813)
C:Superfamily: cystatin; cystatin homology
F:28-135/Domain: cystatin homology <CRS>

Query Match 42.7%; Score 142.5; DB 2; Length 139;
Best Local Similarity 41.0%; Pred. No. 6.3e-10;
Matches 25; Conservative 19; Mismatches 14; Indels 3; Gaps 2;

Qy 2 QVTDHLEHYLVNEMQWTCQRP--ETTNVCVQPER-ELHKVQNCFFSFAVPMFEQYKILNK 58
Db 74 QITDREMEYQIDVOISRNCKKPLNNTENCIPQKKRPLEKKKSCSFLVGCALPMNGEPNLLS 133
Qy 59 K 59
Db 134 K 134

RESULT 2

UDCH
cystatin precursor - chicken
N:Alternate names: cystatin I; cysteine proteinase inhibitor; egg-white cystatin
C:Species: Gallus gallus (chicken)
C>Date: 03-Aug-1984 #sequence_revision 12-Apr-1996 #text_change 29-Oct-1999
C:Accession: A34456; A01274; S01461; S48159; S04008; JN0769
R:Coella, R.; Sakaguchi, Y.; Nagase, H.; Bird, J.W.C.
J. Biol. Chem. 264, 17164-17169, 1989
A:Title: Chicken egg white cystatin. Molecular cloning, nucleotide sequence, and tissue
A:Reference number: A34456; MUID:90008873; PMID:2793849
A:Accession: A34456
A:Molecule type: mRNA
A:Residues: 1-139 <COL>
A:Cross-references: GB:050577; NID:9211714; PIDN:AAA48744.1; PID:9211715
R:Schwabe, C.; Anastasi, A.; Crow, H.; McDonald, J.K.; Barrett, A.J.
Biochem. J. 217, 813-817, 1984
A:Title: Cystatin. Amino acid sequence and possible secondary structure.
A:Reference number: A01274; MUID:84178305; PMID:6712597
A:Accession: A01274

A:Molecule type: protein
A:Residues: 24-139 <SCH>
R:Turk, V.; Brzin, J.; Longer, M.; Ritonga, A.; Eropkin, M.; Borchardt, U.; Machleidt, W.
Hoppe-Seyler's Z. Physiol. Chem. 364, 1487-1496, 1983
A>Title: Protein inhibitors of cysteine proteinases. III. Amino-acid sequence of cystatatin
A:Reference number: S01461; MUID:84110059; PMID:6662498
A:Accession: S01461
A:Molecule type: protein
A:Residues: 24-139 <TUR>
R:Anastasi, A.; Brown, M.A.; Kembhavi, A.A.; Nicklin, M.T.H.; Sayers, C.A.; Sunter, D.C.
Biochem. J. 211, 129-138, 1983
A>Title: Cystatin, a cysteine inhibitor of cysteine proteinases. Improved purification fr
A:Reference number: A37514; MUID:83256421; PMID:6409085
A:Contents: annotation; characterization of protein
R:Grubb, A.; Loebberg, H.; Barrett, A.V.
FEBS Lett. 170, 370-374, 1984
A>Title: The disulfide bridges of human cystatin C (gamma-trace) and chicken cystatin.
A:Reference number: S01462
A:Contents: annotation; disulfide bonds
R:Auerswald, E.A.; Naegler, D.K.; Schulze, A.U.; Engh, R.A.; Genenger, G.; Machleidt, W.
Eur. J. Biochem. 224, 4407-4415, 1994
A>Title: Production, inhibitory activity, folding and conformational analysis of an N-tec
A:Reference number: S48159; MUID:95010016; PMID:7925354
A:Accession: S48159
A>Status: preliminary
A:Molecule type: protein
A:Residues: 24-139 <ABE>
R:Laher, B.; Kligelstein, K.; Henschen, A.; Kos, J.; Turk, V.; Huber, R.; Bode, W.
FEBS Lett. 248, 162-168, 1989
A>Title: The cysteine proteinase inhibitor chicken cystatin is a phosphoprotein.
A:Reference number: S04008; MUID:89252033; PMID:2721673
A:Accession: S04008
A:Molecule type: protein
A:Residues: 97-114 <LAB>
R:Colella, R.; Bird, J.W.C.
Gene 130, 175-181, 1993
A>Title: Isolation and characterization of the chicken cystatin-encoding gene: Mapping t
A:Reference number: JN0789; MUID:93366172; PMID:835684
A:Accession: JN0789
A:Molecule type: DNA
A:Residues: 1-139 <CO2>
A:Cross-references: GB:M5725
A>Note: authors failed to translate the codon for residue 115-Tyr
C:Comment: This protein binds tightly to and inhibits a variety of cysteine proteinases
C:Genetics:
A:Gene: Csn
A:Introns: 76/3; 114/3
C:Superfamily: cystatin homology
C:Keywords: cysteine proteinase inhibitor; egg white; phosphoprotein
F:1-23/Domian: signal sequence #status predicted <SIG>
F:24-133/Product: cystatin, long form #status experimental <CYLP>
F:30-139/Domian: cystatin homology <CVS>
F:32-139/Product: cystatin, short form #status experimental <CVSF>
F:76-80/Region: inhibitory #status predicted
F:94-104, 118-138/Disulfide bonds: #status experimental
F:103/Binding site: phosphate (Ser) (covalent) (partial) #status experimental

Query Match 29.8%; Score 99.5; DB 1; Length 139;
Best Local Similarity 36.7%; Pred. No. 9.3e-05;
Matches 22; Conservative 11; Mismatches 24; Indels 3; Gaps 2;

OY 1 ROWTDHLEHLINVENQWTTCKP--ETTNC-VPOREELHKVQNCFFSVFAVPWFEOYKIL 57
:::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 75 ROLVSGIKYILOVEIGRTTCRKSSGDLQSCEFHDEPEAKYKTCTCFVVYSIPMNIQKL 134

RESULT 3
S10587
cystatin C - rat
C:Species: Rattus sp. (rat)
C>Date: 21-Nov-1993 #sequence_revision 03-Nov-1995 #text_change 16-Jul-1999
C:Accession: S10587
Bernard, F.; Esnard, A.; Faucher, D.; Capony, J.P.; Derancourt, J.; Brillard, M.; Gautier,

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Biol.Chem. Hoppe-Seyler 371(Suppl.), 161-166, 1990
A>Title: Rat cystatin C; the complete amino acid sequence reveals a site for N-glycosylat
A>Reference number: S10587; MUID:90380276; PMID:2400577
A>Accession: S10587
A>Status: preliminary
A>Molecule type: protein
A>Residues: 1-120 <ESN>
A>Note: 43-Ash was also found
A>Note: the sequence from Fig. 2 is inconsistent with that from Fig. 1 in having 18-Ala
C>Superfamily: cystatin; cystatin homology
F:9-120/Domain: cystatin homology <CYS>

Query Match      29.2%; Score 97.5; DB 2; Length 120;
Best Local Similarity 37.7%; Pred.No. 0.00014;
Matches 20; Conservative 12; Mismatches 18; Indels 3; Gaps 2;

Db
1 RQVTDLEHNLNVEMQTTCOKPER--TNC-VPOERELHKQVNCFPSPVAVPM 50
:::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
54 KQLVAGINVIYLDVENGRITCTKSQTNLTNCPHPDQHLMRKALKCSFIYSVPM 106
:::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|

RESULT 4
S07085
cystatin C precursor - rat (fragment)
C>Species: Rattus norvegicus (Norway rat)
C>Date: 01-Dec-1993 #sequence revision 03-Aug-1995 #ext_change 16-Jul-1999
C>Accession: S07085; S01337; S21109
R>Cole, T.; Dickson, P.W.; Benard, F.; Averill, S.; Risbridger, G.P.; Gauthier, F.; Schre
Bur. J. Biochem. 186, 35-42, 1989
A>Title: The cDNA structure and expression analysis of the genes for the cysteine protease
A>Reference number: S07085; MUID:90092122; PMID:2689174
A>Accession: S07085
A>Status: preliminary
A>Molecule type: mRNA
A>Residues: 1-127 <COL>
A>Cross-references: EMBL:X16957; NID:956041; PIDN:CA34831.; PID:G736290
R>Benard, A.; Benard, F.; Faucher, D.; Gauthier, F.
FEBS Lett. 236, 475-478, 1988
A>Title: Two rat homologues of human cystatin C.
A>Reference number: S01337; MUID:88313020; PMID:3044831
A>Accession: S01337
A>Molecule type: protein
A>Residues: 8-49 <ESN>
R>Benard, A.; Benard, F.; Guillon, F.; Gauthier, F.
FEBS Lett. 300, 131-135, 1992
A>Title: Production of the cysteine proteinase inhibitor cystatin C by rat Sertoli cells
A>Reference number: S21109; MUID:92225121; PMID:1563513
A>Accession: S21109
A>Molecule type: protein
A>Residues: 8,'XX',11-20 <ES2>
C>Superfamily: cystatin; cystatin homology
C>Keywords: cysteine proteinase inhibitor
F:16-127/Domain: cystatin homology <CYS>
F:80-90,104-124/Distulfide bonds: #status predicted

Query Match      29.2%; Score 97.5; DB 2; Length 127;
Best Local Similarity 37.7%; Pred.No. 0.00015;
Matches 20; Conservative 12; Mismatches 18; Indels 3; Gaps 2;

Db
1 RQVTDLEHNLNVEMQTTCOKPER--TNC-VPOERELHKQVNCFPSPVAVPM 50
:::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
61 KQLVAGINVIYLDVENGRITCTKSQTNLTNCPHPDQHLMRKALKCSFIYSVPM 113
:::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|

RESULT 5
UDHU
cystatin C precursor [validated] - human.
N>Alternate names: gamma-CSF; gamma-trace; neuroendocrine basic polypeptide; post-gamma I
C>Species: Homo sapiens (man)
C>Date: 06-Jul-1982 #sequence revision 31-Mar-1991 #ext_change 08-Dec-2000
C>Accession: S10216; S00004; U10095; A23400; S02751; A01370; A25433; S12288; A32732; A605
R>Abrahamson, M.; Olafsson, I.; Paldestorff, A.; Ulvsaeck, M.; Lundwall, A.; Jensen, O.,
Biochem. J. 268, 287-294, 1990

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A>Title: Structure and expression of the human cystatin C gene.
A/Reference number: S10216; MUID:90303202; PMID:2363674
A/Accession: S10216
A/Molecule type: DNA
A/Residues: 1-146 <AB1>
A/Cross-references: EMBL:X52255; NID:930257; PIDN:CAA56497.1; PID:g296643
R/Abrahamson, M.; Grubb, A.; Olafsson, I.; Lundvall, A.
FEBS Lett. 216, 229-233, 1987
A/Title: Molecular cloning and sequence analysis of cDNA coding for the precursor of the
A/Reference number: S00004; MUID:87219149; PMID:3495457
A/Accession: S00004
A/Molecule type: mRNA
A/Residues: 1-146 <AB2>
A/Cross-references: EMBL:X05607; NID:930371; PIDN:CAA2906.1; PID:g755738
R/Levy, E.; Lopez-Otin, C.; Ghiso, J.; Geltnier, D.; Frangione, B.
J. Exp. Med. 169, 1771-1778, 1989
A/Title: Stroke in Icelandic patients with hereditary amyloid angiopathy is related to a
A/Reference number: J10095; MUID:89235594; PMID:2541223
A/Accession: J10095
A/Molecule type: DNA
A/Residues: 1-146 <LEV>
A/Cross-references: GB:X61661; NID:930367; PIDN:CAA43856.2; PID:g4490944
A/Note: the cystatin C gene isolated from the brain of an Icelandic patient with heredit
e)
R/Saitoh, E.; Sabatini, L.M.; Eddy, R.L.; Shows, T.B.; Azen, E.A.; Isemura, S.; Sanada,
Biochem. Biophys. Res. Commun. 162, 1324-1331, 1989
A/Title: The human cystatin C gene (CST3) is a member of the cystatin gene family which
A/Reference number: A33400; MUID:89350949; PMID:2764935
A/Accession: A33400
A/Molecule type: DNA
A/Residues: 1-24, 'T', 26-146 <SA1>
A/Cross-references: GB:M27889; GB:M27890; GB:M27891; NID:9181385; PIDN:AA52164.1; PID:g
R/Ghiso, J.; Cowan, N.; Frangione, B.
Biol. Chem. Hoppe-Seyler 369, 205-208, 1988
A/Title: Isolation of a sequence encoding human cystatin C. Conservation of exon-intron
A/Reference number: S02751; MUID:89076507; PMID:3264504
A/Accession: S02751
A/Molecule type: DNA
A/Residues: 82-119 <GH2>
A/Cross-references: EMBL:M27769
A/Note: the authors translated the codon ACC for residue 105 as Thr; the sequence shown
R/Grubb, A.; Lofberg, H.
Proc. Natl. Acad. Sci. U.S.A. 79, 3024-3027, 1982
A/Title: Human gamma-trace, a basic microprotein: amino acid sequence and presence in th
A/Reference number: A01270; MUID:82222268; PMID:6283552
A/Accession: A01270
A/Molecule type: protein
A/Residues: 27-131, 'S', 133-146 <GRU>
R/Chiso, J.; Jensen, O.; Frangione, B.
Proc. Natl. Acad. Sci. U.S.A. 83, 2974-2978, 1986
A/Title: Amyloid fibrils in hereditary cerebral hemorrhage with amyloidosis of Iceland
A/Reference number: A25434; MUID:86206076; PMID:3517880
A/Accession: A25434
A/Molecule type: protein
A/Residues: 37-93, 'Q', 95-146 <GHI>
R/Turk, V.; Brzin, J.; Longier, M.; Riconja, A.; Eropkin, M.; Borchart, U.; Machleidt, W.
Hoppe-Seyler's Z. Physiol. Chem. 364, 1487-1496, 1983
A/Title: Protein inhibitors of cysteine proteinases. III. Amino-acid sequence of cystati
A/Reference number: S01461; MUID:84110059; PMID:6662498
A/Accession: S12288
A/Molecule type: protein
A/Residues: 27-73 <TUR>
R/Brzin, J.; Popovic, T.; Turk, V.
Biochem. Biophys. Res. Commun. 118, 103-109, 1984
A/Title: Human cystatin, a new protein inhibitor of cysteine proteinases.
A/Reference number: A32732; MUID:84128015; PMID:6365094
A/Accession: A32732
A/Molecule type: protein
A/Residues: 27-76 <BRZ>
R/Olafsson, I.; Gudmundsson, G.; Abrahamson, M.; Jensen, O.; Grubb, A.
Scand. J. Clin. Lab. Invest. 50, 85-93, 1990
A/Title: The amino terminal portion of cerebrospinal fluid cystatin C in hereditary cyst
A/Reference number: A60552; MUID:90193615; PMID:2315647

A/Accession: A60552
A/Molecule type: protein
A/Residues: 27-49, 'XX', 52-64 <OLA>
A/Note: this protein, purified from cerebrospinal fluid of patients with the autosomal d
e defective gene is not present in CSF but is found instead in amyloid deposits
R/Popovic, T.; Brzin, J.; Riconja, A.; Turk, V.
Biol. Chem. Hoppe-Seyler 371, 575-580, 1990
A/Title: Different forms of human cystatin C.
A/Reference number: S10607; MUID:91025625; PMID:2222856
A/Accession: S10607
A/Molecule type: protein
A/Residues: 27-53 <POP>
A/Experimental source: urine, kidney disease
A/Note: truncated forms with amino ends at positions 35 and 36 of the precursor were als
R/Grubb, A.; Lofberg, H.; Barrett, A.J.
FEBS Lett. 170, 370-374, 1984
A/Title: The disulphide bridges of human cystatin C (gamma-trace) and chicken cystatin.
A/Reference number: S01462
A/Contents: annotation; disulfide bonds
R/Berti, P.J.; Storer, A.C.
Biochem. J. 302, 411-416, 1994
A/Title: Local pH-dependent conformational changes leading to proteolytic susceptibility
A/Reference number: S55305; MUID:94379969; PMID:8092991
A/Accession: S55305
A/Status: preliminary
A/Molecule type: protein
A/Residues: 27-49, 106-146 <BER>
A/Comment: This protein is found in the post-gamma-globulin fraction of cerebrospinal fl
e patients with certain autoimmune diseases.
C/Comment: This protein is an inhibitor of cysteine proteinases and may serve an import
C/Comment: A mutant cystatin C, with 94-Gln, is deposited in hereditary cerebral hemorr
C/Genetics:
A/Genes: GST3
A/Cross-references: GDB:119817; OMIM:105150
A/Map position: 20p11.2-20p11.2
A/Intons: 81/3, 119/3
A/Superfamily: cystatin; cystatin homology
C/Keywords: amyloid; cysteine proteinase inhibitor; extracellular protein; hydroxyproline
F,1-26/Domain: signal sequence #status predicted <SIG>
F,1-27-146/Product: cystatin C #status experimental <MAT>
F,35-146/Domain: cystatin homology <CYS>
F,81-85/Region: inhibitory #status predicted
F,29/Modified site: hydroxyproline (Pro) (partial) #status experimental
F,99-109,123-143/Disulfide bonds: #status experimental

Query Match 27.1%; Score 90.5; DB 1; Length 146;
Best Local Similarity 35.8%; Pred. No. 0.0012;
Matches 19; Conservative 10; Mismatches 21; Indels 3; Gaps 2;

QY 1 RQYTDHLEHYLNVEMQTTQCK--PRTTNC-VQDERLHQVNCFFSVFVAPW 50
Db 80 KQIVAGNVPLDVELGRTTCTKTPMINDCPFDQPHLKRAFCFSFOIYVAPW 132

RESULT 6
A47142
cystatin D precursor - human
C/Species: Homo sapiens (man)
C/Date: 03-May-1994 #sequence_revision 03-May-1994 #text_change 16-Jul-1999
C/Accession: A47142; S18212
R/Freije, J.P.; Balbin, M.; Abrahamson, M.; Velasco, G.; Dalboe, H.; Grubb, A.; Lopez-Ot
J. Biol. Chem. 268, 15737-15744, 1993
A/Title: Human cystatin D. cDNA cloning, characterization of the *Bacterichia coli* expres
A/Reference number: A47142; MUID:93340179; PMID:8340398
A/Accession: A47142
A/Status: preliminary
A/Molecule type: mRNA
A/Residues: 1-142 <FR>
A/Cross-references: GB:X70377; NID:9398710; PIDN:CAA4838.1; PID:g398711
A/Note: single residue difference between this report and S18218 was investigated and sh
R/Freije, J.P.; Abrahamson, M.; Olafsson, I.; Velasco, G.; Grubb, A.; Lopez-Otin, C.
J. Biol. Chem. 266, 20538-20543, 1991
A/Title: Structure and expression of the gene encoding cystatin D, a novel human cysteine


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A:Gene: GDB:119815, OMTM:123855
A:Cross-References: GDB:119815, OMTM:123855
A:Map position: 20p11.2-20p11.2
C:Superfamily: cystatin; cystatin homology
C:Keywords: cysteine proteinase inhibitor; extracellular protein; saliva
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-141/Product: cystatin SA-I #status experimental <MAT1>
F:22-141/Product: cystatin SN #status experimental <MAT2>
F:30-141/Domain: cystatin homology <CYS>
F:76-80/Region: inhibitory #status predicted
F:94-104,118-138/Distulfide bonds: #status predicted

Query Match      23.2%  Score 77.5  DB 1; Length 141;
Best Local Similarity 34.0%  Pred. No. 0.041;
Matches 18; Conservative 8; Mismatches 24; Indels 3; Gaps 2;

Db
1  ROWTDHEAHNVEMQWTTCK--PETNVCVPOER-ELHKQVNFPSVFAVPW 50
   : : : : : : : : : : : : : : : : : : : : : : : : : :
75 QQVGVGVVFFPDVEVGRITCKSQPNLDTCAFHQPHLQKQLCSFELYEVPW 127

RESULT 13
JC2040
cystatin - chum salmon
N:Alternate names: cysteine proteinase inhibitor
C:Species: Oncorhynchus keta (chum salmon)
C:Date: 14-Jul-1994 #sequence_revision 14-Jul-1994 #text_change 16-Jul-1999
C:Accession: JC2040
R:Koide, Y.; Noso, T.
Bioesci. Biotechnol. Biochem. 58, 164-169, 1994
A:Title: The complete amino acid sequence of pituitary cystatin from chum salmon.
A:Reference number: JC2040; MUID:94162738; PMID:7764512
A:Accession: JC2040
A:Residues: 1-111 <KOI>
A:Molecule type: protein
C:Comment: The intracellular role of this protein is the inhibition of intralysosomal p
C:Superfamily: cystatin; cystatin homology
C:Keywords: cysteine proteinase inhibitor
F:2-111/Domain: cystatin homology <CYS>
F:48-52/Region: inhibitory
F:89-109/Distulfide bonds: #status experimental

Query Match      21.6%  Score 72; DB 1; Length 111;
Best Local Similarity 27.1%  Pred. No. 0.15;
Matches 16; Conservative 14; Mismatches 27; Indels 2; Gaps 1;

Db
1  ROWTDHEAHNVEMQWTTCK--PETNVCVPOERELHKQVNFPSVFAVPMEQYKL 57
   : : : : : : : : : : : : : : : : : : : : : : : : : :
47 KQVSGMKRTITVQWGRTPCKRGVYKICSVHKDQMAVPTKTFEWSIFMNGIKMV 105

RESULT 14
T23130
hypochemical protein T2888.4 - Caenorhabditis elegans
C:Species: Caenorhabditis elegans
C:Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Sep-2000
C:Accession: T23130; T25403
R:White, S.
submitted to the EMBL Data Library, December 1997
A:Reference number: Z19690
A:Accession: T23130
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-1779 <WIL>
A:Cross-References: EMBL:AL021066; PDB:CAA15925.1; GSPDB:GN00019; CESP:T2888.4
A:Experimental source: EMBL: clone H31B20
R:White, S.
submitted to the EMBL Data Library, October 1996
A:Reference number: Z20029
A:Accession: T25403
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA

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A:Residues: 1-1779 <#W2>
A:Cross-references: EMBL:Z81133; PIDN:CAB03445.1; GSPDB:GN00019; CESP:T28B8.4
A:Experimental source: clone T28B8
C:Gene: CESP:T28B8.4
C:Genetic:
Oy:Map position: 1
A:introns: 161/2; 223/2; 309/3; 332/2; 547/3; 603/1; 657/3; 745/2; 802/1; 856/1; 1031/1;
C:Superfamily: Caenorhabditis elegans hypothetical protein T28B8.3

Query Match      20.7%; Score 69; DB 2; Length 1779;
Best Local Similarity 35.9%; Pred. No. 5.6;
Matches 14; Conservative 8; Mismatches 7; Indels 10; Gaps 2;

Oy      1  RQVTHLEHLINAVMOWTTCQKPE---VEMOWTTCQKPERTNCVPQ 31
       |||::|||::|||::|||::|||::|||::|||::|||::|||::|||
Db      749  RRTHDLDYITNNPLTKHPTNVQMII--DYTPPHCLPK 785

RESULT 15
KGBOL2
kininogen, LMW II precursor - bovine
N:Alternate names: alpha-2-thiol proteinase inhibitor; preprokininogen
N:Contains: bradykinin (kallidin); kininogen I; kininogen II; prokininogen
N:Species: Bos primigenius taurus (cattle)
C:Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #ext_change 28-May-1999
C:Accession: A01264
R:Nawa, H.; Kitamura, N.; Hirose, T.; Asai, M.; Inayama, S.; Nakaniishi, S.
Proc. Natl. Acad. Sci. U.S.A. 80, 90-94, 1983
A>Title: Primary structures of bovine liver low molecular weight kininogen precursors and
A:Reference number: A93984; MUID:83117859; PMID:6572010
A:Accession: A01264
A:Molecule type: mRNA
A:Residues: 1-434 <NM>
A:Cross-references: GB:V00427; GB:J00011; NID:g489; PIDN:CAA23710.1; PTD:g490
C:Comment: The LMW kininogen precursor is produced from the same gene as the HMW form as
C:Comment: Kininogen is a cysteine proteinase inhibitor, takes part in initiation of the
C:Comment: Bradykinin, released from kininogen by kallikrein, is a potent vasodilator, it
cyproline residue is present in the kininogen prior to the release of bradykinin.
C:Superfamily: kininogen; cystatin homology
C:Keywords: alternative splicing; blood coagulation; cysteine proteinase inhibitor; glyc
F:1-18/Domain: signal sequence #status predicted <SIG>
F:19-434/Product: LMW kininogen I #status predicted <MAT>
F:19-377/Product: LMW kininogen I heavy chain #status predicted <HC>
F:19-130/Domain: cystatin homology <CY1>
F:19-130/Domain: cystatin homology <CY2>
F:141-252/Domain: cystatin homology <CY3>
F:261-372/Domain: cystatin homology <CY3>
F:377-386/Product: lyxyl-bradykinin (kallidin II) #status predicted <KBDY>
F:378-386/Product: bradykinin (kallidin I) #status predicted <BDY>
F:387-434/Product: LMW kininogen I light chain #status experimental <LCH>
F:19/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predicted
F:27-404,82-93,106-125,141-144,205-217,228-247,261-264,325-337,348-367/Disulfide bonds: #
F:47,87,168,169,197,204,280/Binding sites: carbohydrate (asn) (covalent) #status predicted
F:376-377/Cleavage site: Met-Lys (kallikrein) #status predicted
F:380/Modified site: 4-hydroxyproline (Pro) #status predicted
F:386-387/Cleavage site: Arg-Ser (kallikrein) #status predicted

Query Match      20.5%; Score 68.5; DB 1; Length 434;
Best Local Similarity 33.3%; Pred. No. 1.6;
Matches 21; Conservative 11; Mismatches 22; Indels 9; Gaps 4;

Oy      2  QVTHLEHLINAVMOWTTCQKPE---TTNCVQGEERELHKOV-NCPFSVAVPWFEO-YK 55
       |||::|||::|||::|||::|||::|||::|||::|||::|||::|||
Db      307  QVGGLKSYIFRIAREITCKSGSNBELTSC--EINIHQILHCDANIVVPMWEKVYP 363

Oy      56  ILN 58
       :|
Db      364  TVN 366

Search completed: March 23, 2004, 17:14:32
Job time : 11.8619 secs
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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:05:08 ; Search time 6.66527 Seconds
(without alignments)
460.917 Million cell updates/sec

Title: US-09-941-314-16
Perfect score: 334
Sequence: 1 RQVTDLEHYNEMQVTC.....NCFPSVPAVPEQYKILNK 59

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues
Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_42.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match Length	ID	Description
1	334	100.0	137 1 CS11_HUMAN	Q9H112 homo sapien
2	204	61.1	139 1 CS11_MOUSE	Q94269 mus musculu
3	143.5	43.0	142 1 CST8_RAT	O88969 rattus norv
4	142.5	42.7	142 1 CST8_MOUSE	P22766 mus musculu
5	112.5	33.7	142 1 CST8_HUMAN	O60676 homo sapien
6	111	33.2	165 1 CSTL_HUMAN	Q9H114 homo sapien
7	99.5	29.8	139 1 CYT_CHICK	P01038 gallus gall
8	98.5	29.5	148 1 CYTC_RABIT	O97862 corycolagus
9	97.5	29.2	137 1 CYTC_RAT	P14841 rattus norv
10	93.5	28.0	146 1 CYTC_SAIISC	O19093 saimiri sci
11	92.5	27.7	116 1 CYT_GOTIA	P01061 coturnix co
12	90.5	27.1	146 1 CYTD_HUMAN	P01042 homo sapien
13	89.5	26.8	142 1 CYTC_HUMAN	P28335 homo sapien
14	89.5	26.8	146 1 CYTC_MACMU	O19092 macaca mula
15	88.5	26.5	140 1 CYTC_MOUSE	P01460 mus musculu
16	86.5	25.9	141 1 CYTT_HUMAN	P09228 homo sapien
17	86	25.7	145 1 CYTF_HUMAN	O76036 homo sapien
18	83.5	25.0	147 1 CST9_HUMAN	Q9H491 homo sapien
19	83	24.9	111 1 CYT_BITAR	P08935 bilis ariet
20	82.5	24.7	141 1 CYTS_HUMAN	P01034 homo sapien
21	82.5	24.7	148 1 CYTC_HUMAN	P01035 homo sapien
22	80	24.0	144 1 CYTF_MOUSE	O89098 mus musculu
23	77.5	23.2	141 1 CYTN_HUMAN	P01037 homo sapien
24	77	23.1	129 1 CYT_CYPCA	P35461 cyprinus ca
25	71.5	21.4	149 1 CYTM_HUMAN	Q15828 homo sapien
26	68.5	20.5	434 1 KNL2_BOVIN	P01047 bos taurus
27	68.5	20.5	619 1 KNL2_BOVIN	P01046 bos taurus
28	67.5	20.2	436 1 KNL1_BOVIN	P01044 bos taurus
29	67.5	20.2	621 1 KNL1_BOVIN	P01044 bos taurus
30	65.5	19.6	137 1 CST9_MOUSE	Q92016 mus musculu
31	65	19.6	130 1 CYT_ONCMY	Q91195 oncochynchu
32	64	19.2	130 1 CYT_ONCKE	Q98967 oncochynchu
33	63.5	19.0	644 1 KNG_HUMAN	P01042 homo sapien

34	63	18.9	141 1 CYTS_RAT	P19313 rattus norv
35	60	18.0	3411 1 POLG_YERVL	P03314 y genome po
36	60	18.0	3411 1 POLG_YERF2	P19901 y genome po
37	59	17.7	426 1 ETIR_RAT	P26894 rattus norv
38	58.5	17.5	625 1 T9S4_HUMAN	Q92544 homo sapien
39	57	17.1	39 1 YXX5_CAMEL	Q18179 caenorhabdi
40	56	16.8	295 1 YDH2_XANAU	P22644 xanthobacte
41	56	16.8	427 1 ETIR_BOVIN	P21450 bos taurus
42	56	16.8	427 1 ETIR_HUMAN	P25101 homo sapien
43	56	16.8	427 1 ETIR_MOUSE	O61614 mus musculu
44	56	16.8	427 1 ETIR_PIG	Q29010 sus scrofa
45	55.5	16.6	938 1 V120_HSVJ7	P52438 human herpe

ALIGNMENTS

RESULT 1
ID CS11_HUMAN STANDARD; PRT; 137 AA.
AC Q9H112; Q9H113;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin 11 precursor.
GN CST11 OR CST8L.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_Taxid=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RX MEDLINE=21638749; PubMed=11780052;
RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Beasley O.P., Bird C.P., Blakey S.E., Bridgman A.M., Brown A.J.,
RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Coulson A., Coville G.J., Deadman R., Dhant P.D., Dunn M.,
RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
RA Grafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Lhvaeasleho M.H., Leverisha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
RA Marsh V.L., Martin S.L., McComachie L.J., McIay K., McMuray A.A.,
RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramay H.,
RA Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Showkeen R., Sims S.,
RA Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,
RA Swann R.M., Symcote N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
RA Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,
RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
RA Wilmshurst L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
Rogers J.;
RT "The DNA sequence and comparative analysis of human chromosome 20.";
RL Nature 414:865-871(2001).
CC -1- SUBCELLULAR LOCATION: Secreted (Potential).
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=1;
CC IsoId=Q9H112-1; Sequence=Displayed;
CC Name=2;
CC IsoId=Q9H112-2; Sequence=VSP_001260;
CC Note=No experimental confirmation available;
CC -1- SIMILARITY: Belongs to the cystatin family.
CC -----
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CC or send an email to license@1sb-sib.ch).

CC -----
DR EMBL; AL096677; CAC13170.1; -
DR EMBL; AL096677; CAC17423.1; -
DR HSSP; P01038; 1A90.
DR GeneW; HGNC:15959; CST11.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; CY; 1.
DR PROSITE; PS00287; CYSTATIN; FALSE_NEG.
KW Thiol protease inhibitor; Signal; Alternative splicing.
FT SIGNAL 1 25
FT CHAIN 1 25
FT SITE 26 137
FT SITE 75 79
FT DISULFID 93 101
FT DISULFID 114 134
FT CARBOHYD 131 131
FT VARSELIC 76 110
FT SEQUENCE 137 AA; 16375 MW; C585C8C39A585C3B CRC64;
SQ

Query Match 100.0%; Score 334; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 2.7e-34;
Matches 59; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 RQYTDHLEHIANEMQTTCKPPTNCVPOERLHKQVNCFSVPAVPEQYKLNK 59
DB 74 RQYTDHLEHIANEMQTTCKPPTNCVPOERLHKQVNCFSVPAVPEQYKLNK 132

RESULT 2

CST1_MOUSE STANDARD; PRT; 139 AA.

AC Q9D269;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Cystatin 11 precursor.
GN CST11.

OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;

RN [1]
RP SEQUENCE FROM N.A.

RC STRAIN=C57BL/6J; TISSUE=Epididymis;
RX MEDLINE=21085660; PubMed=11217851;

RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana K. I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadoya K., Matsuda H. A., Ashburner M., Batelov S., Casavant T.,
RA Fleischman M., Gaasterland T., Gissi C., King B., Kochava H.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaide I., Pesole G., Quackenbush J.,
RA Schirml L. M., Saudou F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Oikido T., Furuno M., Hono H., Baldarelli R., Barin G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M. F.,
RA Brownstein M. J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Guncionich S., Hill D., Hofmann M., Hume D. A., Kamita M., Lee N. H.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K. F.,
RA Suzuki H., Toyokawa K., Wang K. H., Welter C., Whitaker C., Wilming L.,
RA Wyszynski B. A., Yoshida K., Hasegawa Y., Kawai J. H., Kohatsu S.,
RA Hayashizaki Y.;

RA "Functional annotation of a full-length mouse cDNA collection.";
RL Nature 409:685-690(2001).
CC -1- SUBCELLULAR LOCATION: Secreted (Potential).
CC -1- SIMILARITY: Belongs to the cystatin family.
CC

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CC -----
DR EMBL; AK020300; BAB32061.1; -
DR HSSP; P01034; 1G96.
DR MGD; MGI:1925490; Cst11.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; CY; 1.
DR PROSITE; PS00287; CYSTATIN; FALSE_NEG.
KW Thiol protease inhibitor; Signal.
FT SIGNAL 1 28
FT CHAIN 1 28
FT SITE 29 139
FT SITE 76 80
FT DISULFID 94 102
FT DISULFID 115 135
FT CARBOHYD 134 134
FT SEQUENCE 139 AA; 16217 MW; F228D9815FA32640 CRC64;
SQ

Query Match 61.1%; Score 204; DB 1; Length 139;
Best Local Similarity 61.0%; Pred. No. 3.1e-18;
Matches 36; Conservative 10; Mismatches 13; Indels 0; Gaps 0;

OY 1 RQYTDHLEHIANEMQTTCKPPTNCVPOERLHKQVNCFSVPAVPEQYKLNK 59
DB 75 RQYTDHLEHIANEMQTTCKPPTNCVPOERLHKQVNCFSVPAVPEQYKLNK 133

RESULT 3

CST8_RAT STANDARD; PRT; 142 AA.

AC O88969;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Cystatin-related epididymal spermatogenic protein precursor (Cystatin
DE 8).
GN CST8 OR CRES.

OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;

RN [1]
RP SEQUENCE FROM N.A.

RC STRAIN=Sprague-Dawley; TISSUE=Epididymis;
RX MEDLINE=99247899; PubMed=10229662;

RA Cornwall G. A., Hsia N., Sutton H. G.;
RT "Structure, alternative splicing and chromosomal localization of the
RL Blochem. J. 340:85-93(1999).
CC -1- FUNCTION: Performs a specialized role during sperm development and
CC maturation.
CC -1- SUBCELLULAR LOCATION: Secreted (By similarity).
CC -1- SIMILARITY: Belongs to the cystatin family.
CC
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DR EMBL; AF090692; AAC6317.1; -
DR HSSP; P01034; 1G96.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; CY; 1.

Thiol protease inhibitor; signal.

KM SIGNAL 1 19 POTENTIAL.

FT CHAIN 20 142 CYSTATIN-RELATED EPIDIDYMAL SPERMATOGENIC

FT SITE 77 81 PROTEIN.

FT DISULFID 95 105 SECONDARY AREA OF CONTACT (POTENTIAL).

FT DISULFID 119 139 BY SIMILARITY.

FT CARBOHYD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).

SO SEQUENCE 142 AA; 16246 MW; FB873FPAAB6CAB34 CRC64;

Query Match 43.0%; Score 143.5; DB 1; Length 142;

Best Local Similarity 41.0%; Pred. No. 9.2e-11;

Matches 25; Conservative 19; Mismatches 14; Indels 3; Gaps 2;

QY 2 QVTDHLEHYLANVEMQWTCQKP--ETNVCVPOER-ELHKVNCFFSFAVPMFEQYKILN 58

DB 77 QITDRMEYQIDVOISRSNCKRPLNTENCIPQKPKLEKLSCSFLVGLALPMNGBFLLS 136

QY 59 K 59

DB 137 K 137

RESULT 4

CST8_MOUSE STANDARD; PRT; 142 AA.

ID CST8_MOUSE 089102;

AC P32766; 089102; (Rel. 27, Created)

DT 01-OCT-1993 (Rel. 27, Created)

DT 30-MAY-2000 (Rel. 39, Last sequence update)

DT 28-FEB-2003 (Rel. 41, Last annotation update)

DE Cystatin-related epididymal spermatogenic protein precursor (Cystatin-related epididymal specific protein) (Cystatin 8).

GN CST8 OR CRES.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OX NCBI_TaxID=10090;

RA [1]

RP SEQUENCE FROM N.A.

RC STRAIN=C3H, and CD-1;

RX MEDLINE=99247899; PubMed=10229662;

RA Cornwall G.A., Hsia N., Sutton H.G.;

RT "Structure, alternative splicing and chromosomal localization of the Cystatin-related epididymal spermatogenic gene";

RL Biochem. J. 340:85-93(1999).

RN [2]

RP SEQUENCE OF 4-142 FROM N.A.

RC TISSUE=Epididymis;

RX MEDLINE=93078799; PubMed=1280328;

RA Cornwall G.A., Orgebin-Crist M.-C., Hann S.R.;

RT "The CRES gene: a unique testis-regulated gene related to the cystatin family is highly restricted in its expression to the proximal region of the mouse epididymis";

RL Mol. Endocrinol. 6:1653-1664(1992).

RT -1- FUNCTION: Performs a specialized role during sperm development and maturation.

CC -1- SUBCELLULAR LOCATION: Secreted.

CC -1- TISSUE SPECIFICITY: Proximal caput region of the epididymis. Lower expression in the testis. Within the testis it is localized to the elongating spermatids, whereas within the epididymis it is exclusively synthesized by the proximal caput epididymis.

CC -1- INDUCTION: Testicular factors or hormones other than androgens present in the testicular fluid may be involved in the regulation of CRES gene expression.

CC -1- SIMILARITY: Belongs to the cystatin family.

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CC

DR EMBL: AF091503; AAC61754.1; -

DR EMBL: AF090691; AAC36316.1; -

DR EMBL: S49926; AAC35390.1; -

DR PIR: A45361; A45361.

DR HSSP: P01034; 1G96.

DR MGD: MGI:107161; Cat8.

DR InterPro: IPR000010; Cystatin.

DR Pfam: PF00031; Cystatin; 1.

DR SMART: SM00043; Cy; 1.

KM Thiol protease inhibitor; signal.

FT SIGNAL 1 19 POTENTIAL.

FT CHAIN 20 142 CYSTATIN-RELATED EPIDIDYMAL SPERMATOGENIC

FT SITE 77 81 PROTEIN.

FT DISULFID 95 105 SECONDARY AREA OF CONTACT (POTENTIAL).

FT DISULFID 119 139 BY SIMILARITY.

FT CARBOHYD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).

FT CONFLICT 4 15 P1WLSLFLTIP -> GTRBOVGEOSK (IN REF. 2).

SO SEQUENCE 142 AA; 16288 MW; 50B446B98F6673E CRC64;

Query Match 42.7%; Score 142.5; DB 1; Length 142;

Best Local Similarity 41.0%; Pred. No. 1.2e-10;

Matches 25; Conservative 19; Mismatches 14; Indels 3; Gaps 2;

QY 2 QVTDHLEHYLANVEMQWTCQKP--ETNVCVPOER-ELHKVNCFFSFAVPMFEQYKILN 58

DB 77 QITDRMEYQIDVOISRSNCKRPLNTENCIPQKPKLEKLSCSFLVGLALPMNGBFLLS 136

QY 59 K 59

DB 137 K 137

RESULT 5

CST8_HUMAN STANDARD; PRT; 142 AA.

ID CST8_HUMAN 060676;

AC O60676;

DT 30-MAY-2000 (Rel. 39, Created)

DT 30-MAY-2000 (Rel. 39, Last sequence update)

DT 28-FEB-2003 (Rel. 41, Last annotation update)

DE Cystatin-related epididymal spermatogenic protein precursor (Cystatin 8).

GN CST8 OR CRES.

OS Homo sapiens (Human).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.

OX NCBI_TaxID=9606;

RA [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Testis;

RX MEDLINE=95344753; PubMed=7619504;

RA Cornwall G.A., Hann S.R.;

RT "Transient appearance of CRES protein during spermatogenesis and caput epididymal sperm maturation";

RL Mol. Reprod. Dev. 41:37-46(1995).

RN [2]

RP SEQUENCE FROM N.A.

RC TISSUE=Testis;

RX MEDLINE=21638749; PubMed=11780052;

RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R., Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M., Beasley O.P., Bird C.P., Blakey S.B., Bridgeman A.M., Brown A.J., Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P., Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M., Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R., Coulson A., Coville G.J., Deadman R., Dhani P.D., Dunn M., Ellington A.G., Frankland J.A., Fraser A., French L., Garner P., Hammond D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E., Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J., Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D., Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,

RA Lhveasialho M.H., Leyerha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
 RA Marsh V.L., Martin S.L., McConachie L.J., McMay K., McMurray A.A.,
 RA Mith S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
 RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
 RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,
 RA Rice C.M., Rose M.T., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,
 RA Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,
 RA Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
 RA Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M., Williams S.A.,
 RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
 RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
 RA Rogers J.;
 RT "The DNA sequence and comparative analysis of human chromosome 20.";
 RL Nature 414:865-871(2001).
 CC -1- FUNCTION: Performs a specialized role during sperm development and
 maturation.
 CC -1- SUBCELLULAR LOCATION: Secreted.
 CC -1- TISSUE SPECIFICITY: Proximal caput region of the epididymis. Lower
 expression in the testis. Within the testis it is localized to the
 elongating spermatids, whereas within the epididymis it is
 CC exclusively synthesized by the proximal caput epithelium.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 CC EMBL: AF059244; AAC14707.1; -;
 CC EMBL: AL109954; CAB64234.1; -;
 CC HSSP: P01034; 1G96.
 DR GeneW: HGNC:2480; CST8.
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; TAS.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 DR SMART: SM00043; CY; 1.
 KW Thiol protease inhibitor; Signal; Polymorphism.
 FT SIGNAL 1 21
 FT CHAIN 22 142
 FT SITE 77 81
 FT DISULFID 95 105
 FT DISULFID 119 139
 FT CARBOHYD 27 27
 FT CARBOHYD 39 39
 FT VARIANT 142 142
 FT SEQUENCE 142 AA; 16275 MW; 9A351275E0F4EED CRC64;
 SQ
 Query Match 33.7%; Score 112.5; DB 1; Length 142;
 Best Local Similarity 39.3%; Pred. No. 6.2e-07;
 Matches 24; Conservative 17; Mismatches 17; Indels 3; Gaps 2;
 QY 2 QVTDHLEHYHLNEMQTTQCKPRTTN--CVPOER-ELHKOVNCFPSFVAPWPEQYKIIN 58
 DB 77 QVNNLEFLYLDIVARSDCRKPSTNEICAIQENSKLRKSLCSFLVGLALPMNGEFTVME 136
 QY 59 K 59
 DB 137 K 137
 RESULT 6
 CSTL HUMAN STANDARD; PRT; 165 AA.
 AC 09H114;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Cystatin-like 1 precursor.

GN CSTL.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 NC NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=21638749; PubMed=11780052;
 RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
 RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
 RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
 RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
 RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
 RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
 RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
 RA Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,
 RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
 RA Graffham D.V., Griffiths M.N.D., Gwilliam R., Hall R.E.,
 RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
 RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
 RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
 RA Lhveasialho M.H., Leyerha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
 RA Marsh V.L., Martin S.L., McConachie L.J., McMay K., McMurray A.A.,
 RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
 RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
 RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,
 RA Rice C.M., Rose M.T., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,
 RA Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,
 RA Swann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
 RA Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M., Williams S.A.,
 RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
 RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
 RA Rogers J.;
 RT "The DNA sequence and comparative analysis of human chromosome 20.";
 RL Nature 414:865-871(2001).
 CC -1- SUBCELLULAR LOCATION: Secreted (Potential).
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC EMBL: AL096677; CAC03440.2; -;
 CC HSSP: P01038; 1A90.
 DR GeneW: HGNC:15958; CSTL1.
 DR InterPro: IPR000010; Cystatin.
 DR PROSITE: PS00287; CYSTATIN; FALSE_NEG.
 KW Thiol protease inhibitor; Signal.
 FT SIGNAL 1 19
 FT CHAIN 20 165
 FT SITE 93 97
 FT DISULFID 111 121
 FT DISULFID 134 154
 FT CARBOHYD 42 42
 FT CARBOHYD 54 54
 FT CARBOHYD 57 57
 FT CARBOHYD 57 57
 FT CARBOHYD 86 86
 FT CARBOHYD 114 114
 FT CARBOHYD 118 118
 FT CARBOHYD 151 151
 FT SEQUENCE 165 AA; 19312 MW; 9D66D685875DADEA CRC64;
 SQ
 Query Match 33.2%; Score 111; DB 1; Length 165;
 Best Local Similarity 31.7%; Pred. No. 1.1e-06;
 Matches 19; Conservative 18; Mismatches 21; Indels 2; Gaps 1;
 QY 1 RQVTDHLEHYHLNEMQTTQCKPRTTN--CVPOER-ELHKOVNCFPSFVAPWPEQYKIIN 58
 DB 92 RQITGVEYIVTKIGTKCRKRDTSNSCPLOSCKLRKSLICESLIYTPWPNYFQLMN 151

RESULT 7
CYT_CHICK STANDARD; PRT; 139 AA.
AC P01038;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-OCT-1989 (Rel. 12, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin precursor (Egg-white Cystatin).
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OC NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90008873; PubMed=2793849;
RA Colella R., Sakaguchi Y., Nagase H., Bird J.W.C.;
RT "Chicken egg white cystatin. Molecular cloning, nucleotide sequence,
RT and tissue distribution."; Biochem. J. 217:813-817(1984).
RN [2]
RP SEQUENCE OF 24-139.
RX MEDLINE=84178305; PubMed=6712597;
RA Schwabe C., Anastasi A., Crow H., McDonald J.K., Barrett A.J.;
RT "Cystatin. Amino acid sequence and possible secondary structure."; Biochem. J. 217:813-817(1984).
RN [3]
RP SEQUENCE OF 24-139.
RX MEDLINE=84110059; PubMed=6662498;
RA Turk V., Brzin J., Longer M., Ritonja A., Bropink M., Borchart U.,
RT "Protein inhibitors of cysteine proteinases. III. Amino-acid sequence
RT of cystatin from chicken egg white."; Hoppe-Seyler's Z. Physiol. Chem. 364:1487-1496(1983).
RN [4]
RP CHARACTERIZATION OF PROTEIN.
RX MEDLINE=83256421; PubMed=6409085;
RA Anastasi A., Brown M.A., Kembhavi A.A., Nicklin M.J.H., Sayers C.A.,
RT "Cystatin, a protein inhibitor of cysteine proteinases. Improved
RT purification from egg white, characterization, and detection in
RT chicken serum."; Biochem. J. 211:129-138(1983).
RN [5]
RP DISULFIDE BONDS.
RA Grubb A., Loeffberg H., Barrett A.J.;
RT "The disulphide bridges of human cystatin C (gamma-trace) and chicken
RT cystatin."; FEBS Lett. 170:370-374(1984).
RN [6]
RP PHOSPHORYLATION.
RX MEDLINE=89252033; PubMed=2721673;
RA Luber B., Krieglstein K., Henschen A., Kos J., Turk V., Huber R.,
RT "The cysteine proteinase inhibitor chicken cystatin is a
RT phosphoprotein."; FEBS Lett. 248:162-168(1989).
RN [7]
RP X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS).
RX MEDLINE=89052676; PubMed=3191914;
RA Bode W., Engh R., Musil D., Thiele U., Huber R., Karshkov A.,
RT Brzin J., Kos J., Turk V.;
RT "The 2.0 Å X-ray crystal structure of chicken egg white cystatin and
RT its possible mode of interaction with cysteine proteinases."; EMBO J. 7:2593-2599(1988).
RN [8]
RP STRUCTURE BY NMR.
RX MEDLINE=94087719; PubMed=8263912;
RA Dieckmann T., Mitschang L., Hofmann M., Kos J., Turk V.,
RA Auerwald E.A., Jeanicke R., Oeschkinat H.;
RT "The structures of native phosphorylated chicken cystatin and of a

RT recombinant unphosphorylated variant in solution."; J. Mol. Biol. 234:1048-1059(1993).
RL FUNCTION: This protein binds tightly to and inhibits a variety of
CC thiol proteases including ficin, papain, and cathepsins B, C, H,
CC and L. Although isolated from egg white, it is also present in
CC serum.
CC -1- SIMILARITY: Belongs to the cystatin family.
CC
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CC or send an email to license@ebi.ac.uk).
CC
CC EMBL; J05077; AAA48744.1; -.
DR PIR; A34456; UDCH.
DR PDB; 1CEW; 31-JUN-94.
DR PDB; 1A67; 27-MAY-98.
DR PDB; 1A90; 17-JUN-98.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; CY; 1.
DR PROSITE; PS00287; CYSTATIN; 1.
KW Thiol protease inhibitor; Phosphorylation; Signal; 3D-structure.
FT SIGNAL 1 23
FT CHAIN 1 23
FT ACT_SITE 24 139
FT SITE 32 32
FT SITE 76 80
FT DISULFID 94 104
FT DISULFID 118 138
FT MOD_RES 103 103
FT STRAND 35 36
FT TURN 39 40
FT TURN 42 51
FT HELIX 52 52
FT TURN 53 56
FT HELIX 57 58
FT STRAND 63 77
FT TURN 81 95
FT STRAND 96 97
FT TURN 99 100
FT HELIX 101 108
FT STRAND 115 125
FT TURN 126 129
FT STRAND 130 139
SQ SEQUENCE 139 AA; 15287 MW; D92D1131C4D37891 CRC64;
Query Match 29.8%; Score 99.5; DB 1; Length 139;
Best Local Similarity 36.7%; Pred. No. 2,4e-05;
Matches 22; Conservative 11; Mismatches 24; Indels 3; Gaps 2;
OY 1 ROYTDHLEHLYANEMOWTTOCKP--ETTNC-VQOERLHGVNCCFVFAVPEQYKIL 57
DB 75 RQVSGIKITLOVEIRGRTTPKSSGDLQSCFPHDEPMATYTTCTFVYVSIPLNLIKIL 134
RESULT 8
CYTC_RABBIT STANDARD; PRT; 148 AA.
AC 097862;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin C precursor.
OS CSTR3.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RP SEQUENCE FROM N.A.

[illegible]

```

RN      SEQUENCE OF 8-49.
RP      MEDLINE=68313020; PubMed=3044831.
RX      Bernard A., Bernard F., Faucher D., Gauthier F.;
RA      "Two rat homologues of human cystatin C.";
RL      FEBS Lett. 236:475-478(1988).
RN      [4]
RP      SEQUENCE OF 8-20.
RC      TISSUE=Sertoli cells;
RX      MEDLINE=92225121; PubMed=1563513.
RA      Bernard A., Bernard F., Guillon F., Gauthier F.;
RT      "Production of the cysteine proteinase inhibitor cystatin C by rat Sertoli cells.";
RL      FEBS Lett. 300:131-135(1992).
CC      -I- FUNCTION: As an inhibitor of cysteine proteinases, this protein is thought to serve an important physiological role as a local regulator of this enzyme activity. Known to inhibit cathepsin B, H, and L.
CC      -I- SIMILARITY: Belongs to the cystatin family.
-----
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-----
CC      EMBL; X16957; CAA34831.1; -.
DR      PIR; S07085; S07085.
DR      PIR; S10587; S10587.
DR      HSSP; P01034; I696.
DR      InterPro; IPRO00010; Cystatin.
DR      Pfam; PF00031; cystatin; 1.
DR      SMART; SM00043; CY; 1.
DR      PROSITE; PS00287; CYSTATIN_1.
KW      Thiol protease inhibitor; Signal.
FT      NON TER          1           1
FT      SIGNAL          <1         7
FT      CHAIN           8        127
FT      ACT SITE       18        18    CYSTATIN C.
FT      SITE           62        66    REACTIVE SITE.
FT      DISULFID       80        90    SECONDARY AREA OF CONTACT.
FT      DISULFID       104       124    BY SIMILARITY.
FT      CONFLCT        25        25    BY SIMILARITY.
SQ      SEQUENCE       127 AA; 14039 MW; 78F70158B7925853 CRC64;
Query Match              29.2%; Score 97.5; DB 1; Length 127;
Best Local Similarity   37.7%; Pred. No. 3.9e-05;
Matches    20; Conservative 12; Mismatches 18; Indels 3; Gaps 2;
Oy      1 RQVTDLEHYHLMNEMQWTTCCQKPE--TNC-VPOERELHKQNCFPSFAVPW 50
       ::::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db      61 KQLVAGNIYLDVEMGERTTCCKSTNLNCPFHDPHLMKRALCSFOYSVPW 113
RESULT 10
CYTC_SAISC ID CYTC_SAISC STANDARD; PRT; 146 AA.
AC O19053;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin C precursor.
GN CSRG.
OS Saimiri sciureus (Common squirrel monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Cebinae; Saimiri.
OX NCBI_TaxId=9521;
[1]
RP SEQUENCE FROM N.A.
RX MEDLINE=97054523; PubMed=8898820;
RA Wei L.H., Walker L.C., Levy E.;
```

FT	SITE		53	57		SECONDARY AREA OF CONTACT.
FT	DISUPEID		71	81		
FT	DISUPEID		95	115		
FT	MCD RRS		80	80		PHOSPHORYLATION.
SO	SEQUENCE		116 AA;	13093 MW;		48248621053A2F7O CRC64;
	Query Match		27.7%;	Score 92.5; DB 1;	Length 116;	
	Best Local Similarity		33.3%;	Pred.No.0.00015;		
	Matches	20;	Conservative	13;	Mismatches	24;
					Indels	3;
					Gaps	2
Oy		1	RQVTDHLEHLNVEMQMOTTCOK--PETTNC-VPOREELHKOVNCFPSFAVPMPFEQYKIL	57		
Dd		52	QQVLSVKIKIMEVEIGRTTCPPSSADLOSCEFHDEPNAKYTTCNFPVYSIPMLNQIKKL	111		
RESULT 12	CYT_C CYTC HUMAN					
ID	_CYTC_HUMAN	STANDARD;	PRT;	146 AA.		
AC	P01034;					
DT	21-JUL-1986 (Rel. 01,	Created)				
DT	01-AUG-1988 (Rel. 08,	Last sequence update)				
DT	10-OCT-2003 (Rel. 42,	Last annotation update)				
DB	Cystatin C precursor	(Neuroendocrine basic polypeptide) (Gamma-trace)				
DE	{Post-gamma-globulin}.					
GN	CSG3.					
OS	Homo sapiens (Human).					
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;					
OC	Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.					
OX	NCBI_TaxId=9606;					
RN	[1]					
RP	SEQUENCE FROM N.A.					
RC	TISSUE=Placenta;					
RC	MEDLINE=87219149; PubMed=3495457;					
RA	Abrahamson M., Grubb A., Olafsson I., Lundwall A.:					
RT	"Molecular cloning and sequence analysis of cDNA coding for the					
RL	precursor of the human cysteine proteinase inhibitor cystatin C.";					
NX	FBS Lett. 216:229-233 (1987).					
[2]						
RN	SEQUENCE FROM N.A.					
RP	TISSUE=Leukoocyte;					
RC	MEDLINE=90303202; PubMed=2363674;					
RA	Abrahamson M., Olafsson I., Palssdottrir A., Ulfvback M., Lundwall A.,					
RT	Jensen O., Grubb A.:					
RL	"Structure and expression of the human cystatin C gene.";					
NX	Biochem. J. 268:287-294(1990).					
[3]						
RN	SEQUENCE FROM N.A. (HGMA VARIANT).					
RP	TISSUE=Brain;					
RC	MEDLINE=99235594; PubMed=2541223;					
RA	Lievay E., Lopez-Otin C., Ghiso J., Gellner D., Frangione B.;					
RT	"Stroke in Icelandic patients with hereditary amyloid angiopathy is					
RL	related to a mutation in the cystatin C gene, an inhibitor of					
RT	cysteine proteases.";					
RU	J. Exp. Med. 169:1771-1778(1989).					
[4]						
RN	SEQUENCE FROM N.A.					
RP	MEDLINE=89350949; PubMed=2764935;					
RA	Saitoh E., Sabatini L.M., Eddy R.L., Shows T.B., Azen E.A.,					
RA	Iseumura S., Sanada K.:					
RT	"The human cystatin C gene (CSG3) is a member of the cystatin gene					
RL	family which is localized on chromosome 20."					
RB	Biochem. Biophys. Res. Commun. 162:1324-1331(1989).					
[5]						
RN	SEQUENCE FROM N.A.					
RP	Dickinson D.P., Hewett-Emmett D., Thiesse M.;					
RT	"Acquisition of complex patterns of differential expression in					
RL	epithelial cell populations during the evolution of type 2 cystatin					
gene."						
Submitted (NOV-2000)						
to the EMBL/Genbank/DBJ databases.						
[6]						
RP	SEQUENCE FROM N.A.					
RC	MEDLINE=2168749; PubMed=11780052;					
RA	Detonkas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,					

RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
 RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beate D.M.,
 RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
 RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
 RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
 RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Cobby N.R.,
 RA Coulson A., Coville G.J., Deadman R., Dhani P.D., Dunn M.,
 RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
 RA Grafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
 RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
 RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
 RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
 RA Lehesvallo M.H., Leverhna M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
 RA Marsh V.L., Martin S.L., McConachie L.J., McIlroy K., Murray A.A.,
 RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
 RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
 RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramay H.,
 RA Rice C.M., Rose M.T., Scott C.E., Sehra H.K., Showkeen R., Sims S.,
 RA Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Suleston J.E.,
 RA Swan R.M., Symcote N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
 RA Tracey A., Tromans A.C., Vaudin R., Wall M., Wallis J.M.,
 RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
 RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
 RA Rogers J.,
 RT "The DNA sequence and comparative analysis of human chromosome 20.";
 RL Nature 414:865-871(2001).
 [7]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=22388257; PubMed=12477932;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Krausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diatchenko L., Marsina K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Udell T.B., Toshylyki S., Carninci P., Prange C.,
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullah S.J.,
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalins D.E.,
 RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.,
 RT "Generation and initial analysis of more than 15,000 full-length
 human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 [8]
 RP SEQUENCE OF 27-146.
 RX MEDLINE=82222268; PubMed=6283552;
 RA Grubb A., Loeffberg H.,
 RT "Human gamma-trace, a basic microprotein: amino acid sequence and
 presence in the adenohypophysis.";
 RL Proc. Natl. Acad. Sci. U.S.A. 79:3024-3027(1982).
 [9]
 RP SEQUENCE OF 27-73.
 RX MEDLINE=84110059; PubMed=6662498;
 RA Turk V., Brzin J., Longer M., Ritonja A., Eropkin M., Borchart U.,
 RA Machleidt W.,
 RT "Protein inhibitors of cysteine proteinases. III. Amino-acid sequence
 of cystatin from chicken egg white.";
 RL Hoppe-Seyler's Z. Physiol. Chem. 364:1487-1496(1983).
 [10]
 RP SEQUENCE OF 27-76.
 RX MEDLINE=84128015; PubMed=6365094;
 RA Brzin J., Popovic T., Turk V.,
 RT "Human cystatin, a new protein inhibitor of cysteine proteinases.";
 RL Biochem. Biophys. Res. Commun. 118:103-109(1984).
 [11]
 RP DISULFIDE BONDS.

RA Grubb A., Loeffberg H., Barrett A.J.,
 RT "The disulfide bridges of human cystatin C (gamma-trace) and chicken
 RT cystatin.";
 RL FEBS Lett. 170:370-374(1984).
 [12]
 RP X-RAY CRYSTALLOGRAPHY (2.50 ANGSTROMS) OF 27-146.
 RX MEDLINE=21173909; PubMed=11276250;
 RA Janowski R., Kozak M., Jankowska E., Grzonka Z., Grubb A.,
 RA Abrahamson M., Jaskolski M.,
 RT "Human cystatin C, an amyloidogenic protein, dimerizes through
 RT three-dimensional domain swapping.";
 RL Nat. Struct. Biol. 8:316-320(2001).
 [13]
 RP VARIANT GLN-94.
 RX MEDLINE=92316504; PubMed=1352269;
 RA Abrahamson M., Jonasson I., Olafsson I., Jansson O., Grubb A.,
 RT "Hereditary cystatin C amyloid angiopathy: identification of the
 RT disease-causing mutation and specific diagnosis by polymerase chain
 RT reaction based analysis.";
 RL Hum. Genet. 89:377-380(1992).
 CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity.
 CC -1- SUBUNIT: Homodimer.
 CC -1- TISSUE SPECIFICITY: Expressed in highest levels in the epididymis,
 CC vas deferens, brain, thymus, and ovary and the lowest in the
 CC submandibular gland.
 CC -1- DISEASE: Defects in CST3 are a cause of hereditary cerebral
 CC hemorrhage with amyloidosis (HCHWA) (MIM:105150); also known as
 CC cerebral amyloid angiopathy (CAA) or cerebroretinal amyloidosis
 CC Icelandic type. HCHWA is characterized by a thickening of the
 CC cerebral arteries walls with deposition of material with the
 CC characteristics of amyloid.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC
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 CC -----
 DR EMBL: X05607; CAA29096.1; -;
 DR EMBL: X52255; CAA36497.1; -;
 DR EMBL: M27891; AAA52164.1; -;
 DR EMBL: M27889; AAA52164.1; JOINED.
 DR EMBL: M27890; AAA52164.1; JOINED.
 DR EMBL: X61681; CAA43856.2; -;
 DR EMBL: X61682; CAA43856.2; JOINED.
 DR EMBL: X61683; CAA43856.2; JOINED.
 DR EMBL: AF19564; AA11570.1; -;
 DR EMBL: AL121894; CAC05424.1; -;
 DR EMBL: BC013083; AA113083.1; -;
 DR PIR: S10216; UDRU.
 DR PDB: 1G96; 06-APR-01.
 DR Genew: HGNC:2475; CST3.
 DR MIM: 604312; -;
 DR MIM: 105150; -;
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin, 1.
 DR SMART: SM00043; CY, 1.
 DR PROSITE: PS00287; CYSTATIN, 1.
 KW Thiol protease inhibitor; Amyloid; Signal; Disease mutation;
 KW Polymorphism; 3D-structure.
 FT SIGNAL 1 26
 FT CHAIN 27 146 CYSTATIN C.
 FT ACT SITE 37 37 REACTIVE SITE.
 FT SITE 81 85 SECONDARY AREA OF CONTACT.
 FT DISULFID 99 109
 FT DISULFID 123 143
 Query Match 27.1%; Score 90.5; DB 1; Length 146;

Best Local Similarity 35.8%; Pred. No. 0.00033;
Matches 19; Conservative 10; Mismatches 21; Indels 3; Gaps 2;

QY 1 RQVTHLEHLYANEMQWTTQCK--PETTNC-VPOERELHAKVNCFSVFAVPMFEQYKIL 50
DB 80 QQIVAGVNYFVFNKFGRTCTKSPNLDNCPFDQPKLKEBFCFSFOINEVPMEDKISIL 132

RESULT 13

CYTD_HUMAN STANDARD; PRT; 142 AA.
AC P28325;
DT 01-DEC-1992 (Rel. 24, Created)
DT 01-DEC-1992 (Rel. 24, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin D precursor.
GN C875.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=92041895; PubMed=1939105;
RA Freije J.P., Abrahamson M., Olafsson I., Velasco G., Grubb A.,
RT "Structure and expression of the gene encoding cystatin D, a novel
RT human cysteine proteinase inhibitor.";
RT J. Biol. Chem. 266:20538-20543 (1991).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=93340179; PubMed=8340398;
RA Freije J.P., Balbin M., Abrahamson M., Velasco G., Dalboge H.,
RT "Human cystatin D. cDNA cloning, characterization of the Escherichia
RT coli expressed inhibitor, and identification of the native protein in
RT saliva.";
RT J. Biol. Chem. 268:15737-15744 (1993).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=21638749; PubMed=11780052;
RA Delonkas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Baguley C.L.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Beasley O.P., Bird C.P., Blakey S.B., Bridgeman A.M., Brown A.J.,
RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
RA Chapman J.C., Clamp M., Collier G., Clark L.N., Clark S.Y., Clee C.M.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Coulson A., Coville G.J., Deadman R., Dhani P.D., Dunn M.,
RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
RA Grafham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Leharvelsiho M.H., Leverina M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
RA Marsh V.L., Martin S.L., McConachie L.J., McElay K., McMurtry A.A.,
RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsey H.,
RA Rice C.M., Rose M.T., Scott C.E., Sehra H.K., Showken R., Sims S.,
RA Stuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,
RA Swann R.M., Symamore A.C., Vaudin M., Wall M., Wallis J.M.,
RA Tracey A., Tromans N.C., Taylor R., Tee L., Thomas D.W., Thorpe A.,
RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
RA Rogers J.;
RL "The DNA sequence and comparative analysis of human chromosome 20.";
RL Nature 414:865-871 (2001).
RN [4]
RP VARIANT ARG-46.
RX MEDLINE=93161144; PubMed=8444475;
RA Balbin M., Freije J.P., Abrahamson M., Velasco G., Lopez-Otin C.;

RT "A sequence variation in the human cystatin D gene resulting in an
RT amino acid (Gys/Arg) polymorphism at the protein level.";
RL Hum. Genet. 90:668-669 (1993)

CC -1- FUNCTION: Cysteine proteinase inhibitor that possibly plays a
CC protective role against proteinases present in the oral cavity.
CC -1- TISSUE SPECIFICITY: Expressed in parotid gland but not in seminal
CC vesicle, prostate, epididymis, testis, ovary, placenta, thyroid,
CC gastric corpus, small intestine, liver, or gall bladder tissue.
CC -1- SIMILARITY: Belongs to the cystatin family.

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DR EMBL: X59964; CAA42590.1; -

DR EMBL: X70377; CAA49838.1; -

DR EMBL: AL591074; CAC94785.1; -

DR PIR: A47142; A47142.

DR HSSP: P01034; 1G96.

DR Genew: HGNC:2477; C875.

DR MIM: 123858; -

DR GO: GO:0004869; F: cysteine protease inhibitor activity; TAS.

DR InterPro: IPR000010; Cystatin.

DR Pfam: PF00031; cystatin; 1.

DR SMART: SM00043; CY; 1.

DR PROSITE: PS00287; CYSTATIN; 1.

KW Thiol protease inhibitor; Signal; Polymorphism.

FT SIGNAL 1 20

FT CHAIN 1 142

FT ACT_SITE 22 22

FT SITE 70 74

FT DISULFID 95 105

FT DISULFID 119 139

FT VARIANT 46 46

FT C->R (IN 45% OF THE POPULATION;
FT dbsnp:1799841).

FT /FTID=VAR_002208.

SO SEQUENCE 142 AA; 16080 MW; CEFA89BA87A0DA68 CRC64;

Query Match 26.8%; Score 89.5; DB 1; Length 142;

Best Local Similarity 32.8%; Pred. No. 0.00043;

Matches 20; Conservative 12; Mismatches 26; Indels 3; Gaps 2;

QY 1 RQVTHLEHLYANEMQWTTQCK--PETTNC-VPOERELHAKVNCFSVFAVPMFEQYKIL 57

DB 76 QQIVAGVNYFVFNKFGRTCTKSPNLDNCPFDQPKLKEBFCFSFOINEVPMEDKISIL 135

QY 58 N 58

DB 136 N 136

RESULT 14

CYT_CMACMU STANDARD; PRT; 146 AA.

AC O19092;

DT 15-JUL-1998 (Rel. 36, Created)

DT 15-JUL-1998 (Rel. 36, Last sequence update)

DT 28-FEB-2003 (Rel. 41, Last annotation update)

DE Cystatin C precursor.

GN C873.

OS Macaca mulatta (Rhesus macaque).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;

OC Cercopithecoidea; Macaca.

OX NCBI_TaxID=9544;

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE=97054523; PubMed=8898820;

RA Wei L.H., Walker L.C., Levy E.;

RT "Cystatin C. Icelandic-like mutation in an animal model of
 RL cerebrovascular beta-amyloidosis.";
 RT Serebrovaskular beta-amyloidosis.";
 CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 DR EMBL; U51912; AAB64050.1; -;
 DR HSSP; P01034; 1G96.
 DR InterPro; IPR000010; Cystatin.
 DR SMART; SM00043; CY; 1.
 DR PROSITE; PS00287; CYSTATIN, 1.
 KW Thiol protease inhibitor; Amyloid; Signal.
 FT SIGNAL 1 26
 FT CHAIN 27 146
 FT ACT SITE 37 37 REACTIVE SITE.
 FT SITE 81 85 SECONDARY AREA OF CONTACT.
 FT DISUFID 99 109 BY SIMILARITY.
 FT DISUFID 123 143 BY SIMILARITY.
 SQ SEQUENCE 146 AA; 15857 MW; F0B3BB774A29DF26 CRC64;
 Query Match 26.8%; Score 89.5; DB 1; Length 146;
 Best Local Similarity 35.8%; Pred. No. 0.00044;
 Matches 19; Conservative 10; Mismatches 21; Indels 3; Gaps 2;
 QY 1 RQVTDHLEHLYANEMQWTTQCKP--PTTNCVCPQER-ELHGVNCFEVSFVAVPW 50
 DB 80 KQIVAGVNYFLVDVEMGRTTCTKQTNLDNCFPHQPKRAKAFCSFOIYVVPV 132

RA Ehringer M.A., Thompson J., Conroy O., Xu Y., Yang F., Canniff J.,
 RA Beeson M., Gordon L., Bennett B., Johnson T.E., Sikela J.M.;
 RT "High-throughput sequence identification of gene coding variants
 RT within alcohol-related QTLs";
 RL Mamm. Genome 12:657-663(2001).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=2388257; PubMed=12477932;
 RA Krausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shennan C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buelow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diatchenko L., Marusik K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M.J., Soares M.B., Bonaldo M.F., Casavant T.L., Schetz T.E.,
 RA Brownstein M.J., Ueda T.B., Tohiyuki S., Caminci P., Prange C.,
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullany S.J.,
 RA Bosek S.A., McKernan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.O., Hulyk S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Ketterman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butterfield Y.S.N., Krzywicki M.I., Skalska U., Smailus D.E.,
 RA Scherch A., Schein J.E., Jones S.V.M., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length
 RL human and mouse cDNA sequences";
 CC Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 DR EMBL; M59470; AAA63298.1; -;
 DR EMBL; U10098; AAB41056.1; -;
 DR EMBL; AF483486; AAL90760.1; -;
 DR EMBL; AF483487; AAL90761.1; -;
 DR EMBL; BC002072; AAH02072.1; -;
 DR PIR; A36163; A36163.
 DR HSSP; P01034; 1G96.
 DR WGD; WGI:102519; Cat3.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; cystatin; 1.
 DR SMART; SM00043; CY; 1.
 DR PROSITE; PS00287; CYSTATIN, 1.
 KW Thiol protease inhibitor; Signal.
 FT SIGNAL 1 20
 FT CHAIN 21 140
 FT ACT SITE 31 31 REACTIVE SITE.
 FT SITE 75 79 SECONDARY AREA OF CONTACT.
 FT DISUFID 93 103 BY SIMILARITY.
 FT DISUFID 117 137 BY SIMILARITY.
 FT DISUFID 16 16 A -> G (IN REF. 1).
 FT CONFLICT 84 84 L -> F (IN REF. 1).
 SQ SEQUENCE 140 AA; 15531 MW; 3A563406D58D0F5 CRC64;
 Query Match 26.5%; Score 88.5; DB 1; Length 140;
 Best Local Similarity 35.8%; Pred. No. 0.00056;
 Matches 19; Conservative 12; Mismatches 19; Indels 3; Gaps 2;
 QY 1 RQVTDHLEHLYANEMQWTTQCKPPT--TNC-VPQERLHGVNCFEVSFVAVPW 50
 DB 74 KQIVAGVNYFLVDVEMGRTTCTKQTNLDNCFPHQPKRAKAFCSFOIYVVPV 126

Wed Mar 24 09:21:12 2004

Search completed: March 23, 2004, 17:11:07
Job time : 7.66527 secs

us-09-941-314-16.rsp

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GN 1700006C19RIK

DR ProDom; PD001231; Cystatin_C/M; 1.

DR SMART: SM00043; CY: 1.
SQ SEQUENCE 141 AA; 16825 MM; C20FA0DBA84951F CRC64;

Query Match 32.2%; Score 107.5; DB 11; Length 141;
Best Local Similarity 39.3%; Pred. No. 2.5e-06;
Matches 24; Conservative 12; Mismatches 22; Indels 3; Gaps 2;

QY 2 QVTDHLEHYHNVEMQWTTCK--PETNVC-ROERELHKQVNCFFSVFAVPMFEQYKILN 58
DB QITDSLEYLYEVARIMARKCKIAGDNENCLFQDDPKMKAVFCIFIVSSKPMKELMLK 135

QY 59 K 59
DB 136 K 136

RESULT 6
080Y72 PRELIMINARY; PRT; 140 AA.

AC 080Y72; (TEMBLrel. 24, Created)
DT 01-JUN-2003 (TEMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TEMBLrel. 25, Last annotation update)
DE Cystatin-like 1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.

RC TISSUE=Testicle;
RX MEDLINE=22388257; PubMed=12477932;
RA Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Datchenko L., Marusik K., Farmer A.A., Rubin G.M., Hong L.,
RA Srapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Ueda T.B., Tomihata S., Carninci F., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
RA Bosek S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahy J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA Krzywinski M.I., Skalska U., Smallos D.E., Scherch A., Schein J.E.,
RA Jones S.J., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences."
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [2]
RP SEQUENCE FROM N.A.

RC TISSUE=Testicle;
RA Strauberg R.;
RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; BC048646; AAH48646.1; -
DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
DR InterPro; IPR000010; Cystatin.
DR InterPro; IPR003243; Cystatin_C/M.
DR Pfam; PF00031; Cystatin_1.
DR PRODom; PD001231; Cystatin_C/M; 1.
DR SMART; SM00043; CY; 1.
SQ SEQUENCE 140 AA; 16199 MM; 32633B99C4697DA0 CRC64;

Query Match 28.7%; Score 96; DB 11; Length 140;
Best Local Similarity 33.9%; Pred. No. 8.2e-05;
Matches 20; Conservative 14; Mismatches 23; Indels 2; Gaps 1;

QY 2 QVTDHLEHYHNVEMQWTTCKPET--TNCVQERELHKQVNCFFSVFAVPMFEQYKILN 58
DB QLTGVEYLVTVKIGRTKCKKNETKASCPLOSSKLTCKSLISVPMNYYQLMN 134

RESULT 7

Q9EPX9 PRELIMINARY; PRT; 140 AA.
AC Q9EPX9;
DT 01-MAR-2001 (TEMBLrel. 16, Created)
DT 01-MAR-2001 (TEMBLrel. 16, Last sequence update)
DT 01-JUN-2003 (TEMBLrel. 24, Last annotation update)
DE Cystatin C.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.

RC STRAIN=BALB/c;
RX MEDLINE=21010502; PubMed=11144350;
RA Taupin P.J., Ray J., Fischer W.H., Suhr S.T., Hakansson K., Grubb A.,
RA Gage F.H.;
RT "pGf-2-Responsive neural stem cell proliferation requires CCG, a novel
RT autocrine/paracrine cofactor."
RL Neuron 28:385-397(2000).
DR EMBL; AF311741; AAC40283.1; -
DR HSP; P01034; I096.
DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; Cystatin_1.
DR SMART; SM00043; CY; 1.
DR PROSITE; PS00287; CYSTATIN; 1.
FT CHAIN 21 140
FT VARIANT 16 16 A -> G
FT VARIANT 84 84 L -> P
SQ SEQUENCE 140 AA; 15517 MM; 3A563406D58D785 CRC64;

Query Match 27.4%; Score 91.5; DB 11; Length 140;
Best Local Similarity 32.8%; Pred. No. 0.00033;
Matches 20; Conservative 14; Mismatches 24; Indels 3; Gaps 2;

QY 1 RQVTDHLEHYHNVEMQWTTCKPET--TNC-VQERELHKQVNCFFSVFAVPMFEQYKIL 57
DB 74 KQVAGVNVFLDVEWGGRTTCTKSQTNLTDPCPHDQPHLRKALCSFOIYGVPMKGTSLT 133

QY 58 N 58
DB 134 N 134

RESULT 8
Q7Z4J8 PRELIMINARY; PRT; 167 AA.
AC Q7Z4J8;
DT 01-OCT-2003 (TEMBLrel. 25, Created)
DT 01-OCT-2003 (TEMBLrel. 25, Last sequence update)
DT 01-OCT-2003 (TEMBLrel. 25, Last annotation update)
DE Cystatin F (leukocystatin).
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.

RA Kainline N., Chen X., Rolfe A., Halleck A., Hines L., Eisenstein S.,
RA Koundinya M., Raphael J., Moreira D., Kelley T., LaBaer J., Lin Y.,
RA Pielan M., Farmer A.;
RL Submitted (AUG-2003) to the EMBL/GenBank/DBJ databases.
DR EMBL; BT009825; AAP8827.1; -
SQ SEQUENCE 167 AA; 18857 MM; E339025A5B060177 CRC64;

Query Match 25.7%; Score 86; DB 4; Length 167;
Best Local Similarity 32.2%; Pred. No. 0.0021;
Matches 19; Conservative 14; Mismatches 22; Indels 4; Gaps 2;

QY 2 QVTDHLEHYNEMOWTTCQKPE--TTNCVPOERELHKO-VNCFPSVFAVPMFEQYKIL 56
 Db 103 QIVAGKLYKMLEVEIGRTTCKKNQHLRDDCDPQFNHTLTKQTLSCYSEKVVVPMIQLHFEV 161

RESULT 9

ID Q9CX46 PRELIMINARY; PRT; 130 AA.
 AC Q9CX46;
 DT 01-JUN-2001 (TREMBlrel. 17, Created)
 DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
 DE 8030411F24RIK protein.
 GN 8030411F24RIK.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Embryonic testis;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai J., Shingawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 RA Aizawa K., Izawa M., Mishi K., Kiyosawa H., Kondo S., Yamamaka I.,
 RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
 RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,
 RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Peele G., Quackenbush J.,
 RA Schirml L.M., Staabli F., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
 RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 RA Guenichich S., Hill D., Hofmann M., Hume D.A., Kamita M., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
 RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
 RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyooka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,
 RA Wyshaw-Boris A., Yoshida K., Haegawa Y., Kawaji H., Kohlschki S.,
 RA Hayashizaki Y.;
 RA "Functional annotation of a full-length mouse cDNA collection.";
 RL Nature 409:685-690(2001).
 DR EMBL; AK020193; BAB32024.1; -.
 DR HSSP; P01034; IG96.
 DR MGD; MGI:1925859; 8030411F24RIK.
 DR GO; GO:0004669; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; Cystatin; 1.
 DR SMART; SM00043; CY; 1.
 SQ SEQUENCE 130 AA; 14947 MW; DD2F930B64B4E584 CRC64;
 Query Match 24.9%; Score 83; DB 11; Length 130;
 Best Local Similarity 36.7%; Pred. No. 0.004; Indels 2; Gaps 1;
 Matches 18; Conservative 9; Mismatches 20;
 QY 11 LNVEMQWTTQCKPE--NCVPOERELHKO-VNCFPSVFAVPMFEQYKIL 57
 Db 75 MDEMGRTICKKHNDENHNCPLQGSREKRVHCVQVDARPMFSHTIL 123

RN [1]
 RC SEQUENCE FROM N.A.
 RP STRAIN=C57; TISSUE=Testis;
 RA Li Y., Friel P.J., Griswold M.D.;
 RT "Molecular cloning and characterization of cystatin SC and cystatin
 RT TE-1, new members of the cystatin family.";
 RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF40735; AAL30841.1; -.
 DR MGD; MGI:1925859; 8030411F24RIK.
 DR GO; GO:0004669; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; Cystatin; 1.
 DR SMART; SM00043; CY; 1.
 SQ SEQUENCE 130 AA; 15076 MW; DD34930B64AEE58F CRC64;
 Query Match 24.9%; Score 83; DB 11; Length 130;
 Best Local Similarity 36.7%; Pred. No. 0.004; Indels 2; Gaps 1;
 Matches 18; Conservative 9; Mismatches 20;
 Db 75 MDEMGRTICKKHNDENHNCPLQGSREKRVHCVQVDARPMFSHTIL 123

RESULT 11

ID Q9JMB4 PRELIMINARY; PRT; 148 AA.
 AC Q9JMB4;
 DT 01-OCT-2000 (TREMBlrel. 15, Created)
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
 DE DD72 protein (similar to cystatin 10) (Chondrocytes).
 GN Cstr10 OR DD72.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Ikegawa S., Nakamura Y.;
 RT "DD72, a novel mouse gene implicated in the early stage of ectopic
 RT ossification.";
 RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=FVB/N; TISSUE=salivary gland;
 RA Strausberg R.;
 RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AB036743; BAA95411.1; -.
 DR EMBL; BC048364; AAB48364.1; -.
 DR HSSP; P01034; IG96.
 DR MGD; MGI:1930004; Cstr10.
 DR GO; GO:0004669; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR InterPro; IPR001713; Stefinin.
 DR Pfam; PF00031; Cystatin; 1.
 DR PRINTS; PR00295; STEFINA.
 DR SMART; SM00043; CY; 1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 SQ SEQUENCE 148 AA; 16451 MW; 637534CFCSAA179 CRC64;
 Query Match 24.4%; Score 81.5; DB 11; Length 148;
 Best Local Similarity 31.1%; Pred. No. 0.0073; Indels 3; Gaps 2;
 Matches 19; Conservative 12; Mismatches 27;
 QY 1 ROYTDHLEHYNEMOWTTCQKPE--TTNCVPOER-ELHKO-VNCFPSVFAVPMFEQYKIL 57
 Db 82 QOVVAGKLYLKLEIGRTTCKTESNLVDCPFNEQPDQGRVLCNFOINVAPMLNKSMWT 141

QY 58 N 58
 Db 142 N 142


```

RESULT 12
ID Q8V1H8 PRELIMINARY; PRT; 130 AA.
AC Q8V1H8;
DT 01-MAR-2002 (TEMBLrel. 20, Created)
DT 01-MAR-2002 (TEMBLrel. 20, Last sequence update)
DT 01-JUN-2003 (TEMBLrel. 24, Last annotation update)
DE Cystatin SC.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxId=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Sprague-Dawley; TISSUE=Testis;
RA Li Y., Friel P.J., Griswold M.D.;
RT "Molecular cloning and characterization of cystatin SC and cystatin
TE-1, new members of the cystatin family."
RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF442205; AL35350.1; -
DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; Cy; 1.
SQ SEQUENCE 130 AA; 14981 MW; 7A752359860989C9 CRC64;

Query Match 24.0%; Score 80; DB 11; Length 130;
Best Local Similarity 34.7%; Pred. No. 0.01;
Matches 17; Conservative 10; Mismatches 20; Indels 2; Gaps 1;

QY 11 LANEOMTTCQKPE--NCVPERELHKQVNCFFSFAVMPPEQYKI 57
Db 75 MDLEMGRTICKKIDENIHNCPLLGSGEKVHCVFQVADPWFHSHTVL 123

RESULT 13
ID Q9QWL5 PRELIMINARY; PRT; 167 AA.
AC Q9QWL5;
DT 01-MAY-2000 (TEMBLrel. 13, Created)
DT 01-MAY-2000 (TEMBLrel. 13, Last sequence update)
DT 01-JUN-2003 (TEMBLrel. 24, Last annotation update)
DE Murine CMAP (CYSTATIN F) (LEUKOCYSTATIN).
DR Murine CMAP OR CST1.
GN MURINE CMAP OR CST1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxId=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Embryo;
RA Kawai J., Shingawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Aizawa K., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadoya K., Matsumoto H.A., Ashburner M., Batalov S., Casavant T.,
RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaide I., Pesole G., Quackenbush J.,
RA Schriml L.M., Staudli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaudo M.F.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seta T., Shibata Y., Storch K.-F.,
RA Sasaki H., Sato K., Schoenbach C., Seta T., Shibata Y., Storch K.-F.,

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RA Suzuki H., Toyo-oka K., Wang K.H., Wetz C., Whitaker C., Wilming L.,
RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawai H., Kohetsuki S.,
RA Hayashizaki Y.;
RT "Functional annotation of a full-length mouse cDNA collection."
RL Nature 409:685-690(2001).
DR EMBL; AB015224; BA34940.1; -
DR HSSP; AK004420; BAB23298.1; -
DR HSSP; P01034; 1G96.
DR MGI; MGI:1238217; Cst7.
DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
DR InterPro; IPR000010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; Cy; 1.
SQ SEQUENCE 167 AA; 18847 MW; 61F776D8445095FE CRC64;

Query Match 24.0%; Score 80; DB 11; Length 167;
Best Local Similarity 30.5%; Pred. No. 0.013;
Matches 18; Conservative 13; Mismatches 24; Indels 4; Gaps 2;

QY 2 QYVDHLEYNLMQMTTCQK---ETTNCVPER-ELHKQVNCFFSFAVMPPEQYKI 56
Db 103 QVVGKLTMLVEXKIGRTCKTHHOLDNCFQTNPALKRTLYCYSEWVWIPWLHSFEV 161

RESULT 14
ID Q9DAN8 PRELIMINARY; PRT; 128 AA.
AC Q9DAN8;
DT 01-JUN-2001 (TEMBLrel. 17, Created)
DT 01-JUN-2001 (TEMBLrel. 17, Last sequence update)
DT 01-JUN-2003 (TEMBLrel. 24, Last annotation update)
DE 1700006F03RIK protein (Cystatin TE-1).
GN 1700006F03RIK.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxId=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Testis;
RX MEDLINE=21085660; PubMed=11217851;
RA Kawai J., Shingawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Aizawa K., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadoya K., Matsumoto H.A., Ashburner M., Batalov S., Casavant T.,
RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaide I., Pesole G., Quackenbush J.,
RA Schriml L.M., Staudli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaudo M.F.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seta T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyo-oka K., Wang K.H., Wetz C., Whitaker C., Wilming L.,
RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawai H., Kohetsuki S.,
RA Hayashizaki Y.;
RT "Functional annotation of a full-length mouse cDNA collection."
RL Nature 409:685-690(2001).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=C57; TISSUE=Testis;
RA Li Y., Friel P.J., Griswold M.D.;
RT "Molecular cloning and characterization of cystatin SC and cystatin
TE-1, new members of the cystatin family."
RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AK005670; BAB24179.1; -
DR EMBL; AF440737; AL30843.1; -
DR MGI; MGI:1916612; 1700006F03RIK.
DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
DR InterPro; IPR000010; Cystatin.

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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:04:13 ; Search time 38.3598 Seconds
(without alignments)
353.554 Million cell updates/sec

Title: US-09-941-314-17
Perfect score: 273
Sequence: 1 NVEWMQWTTQCKPETHNCVPO.....NCFPSVPAVWPPEQYKILNK 48

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues
Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_29Jan04:*
1: geneseqp19808:*
2: geneseqp19808:*
3: geneseqp20008:*
4: geneseqp20018:*
5: geneseqp20028:*
6: geneseqp20038:*
7: geneseqp20038:*
8: geneseqp20048:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	273	100.0	48	AAU79867	AAU79867 Human cys.
2	273	100.0	59	AAU79866	AAU79866 Human cys.
3	273	100.0	80	AAU79865	AAU79865 Human cys.
4	273	100.0	115	AAU79853	AAU79853 Human cys.
5	273	100.0	117	AAU79854	AAU79854 Human cys.
6	273	100.0	137	AAU79852	AAU79852 Human cys.
7	133	48.7	33	AAU79862	AAU79862 Human cys.
8	133	48.7	52	AAU79864	AAU79864 Human cys.
9	107.5	39.4	142	AAE02404	AAE02404 Murine cy
10	107.5	39.4	142	AAE04433	AAE04433 Mouse spe
11	107.5	39.4	143	ADAI4374	ADAI4374 Mouse spe
12	100.5	36.8	142	ADDA6708	ADDA6708 Rat Prote
13	100.5	36.8	142	ADDA6704	ADDA6704 Rat Prote
14	95.5	35.0	148	AAU09877	AAU09877 Novel hum
15	93	34.1	46	AAU79860	AAU79860 Human cys
16	93	34.1	49	AAU79863	AAU79863 Human cys
17	93	34.1	132	AAU79836	AAU79836 Human ZCY
18	92.5	33.9	148	ABP60965	ABP60965 Novel hum
19	92.5	33.9	148	AAU79364	AAU79364 Human ZCY
20	87	31.9	145	AAE04315	AAE04315 Altermati
21	87	31.9	145	AAE04323	AAE04323 Human ZCY
22	87	31.9	145	AAE04887	AAE04887 Human pro
23	87	31.9	145	AAU76578	AAU76578 Human ZCY
24	87	31.9	145	AAU76555	AAU76555 Human ZCY
25	87	31.9	145	ABG75925	ABG75925 Human cys

26	87	31.9	145	6	ABG75917	Abg75917 Human cys
27	87	31.9	165	4	AAE04324	AAE04324 Human ZCY
28	87	31.9	165	5	AAU76556	AAU76556 Human cys
29	87	31.9	165	6	ABG75918	Abg75918 Human cys
30	86	31.5	145	4	AAU08667	AAU08667 Human NOV
31	85.5	31.3	92	2	AAW78259	AAW78259 Fragment
32	85.5	31.3	123	2	AAW78258	AAW78258 Fragment
33	85.5	31.3	142	2	AAW78258	AAW78258 Fragment
34	85.5	31.3	142	4	AAE02405	AAE02405 Human cys
35	85.5	31.3	142	4	AAE04434	AAE04434 Human cys
36	85.5	31.3	142	6	ADA57231	ADA57231 Human sec
37	85.5	31.3	142	6	ADA41112	ADA41112 Human sec
38	85.5	31.3	142	7	ADC74335	ADC74335 Human sec
39	85.5	31.3	142	7	ADP37980	ADP37980 Human sec
40	85.5	31.3	142	7	ADDA6706	ADDA6706 Human Pro
41	85.5	31.3	142	7	ADDA6710	ADDA6710 Human Pro
42	81.5	29.9	116	3	AAV81210	AAV81210 Egg white
43	81.5	29.9	121	3	AAV81156	AAV81156 Human mut
44	80.5	29.5	96	3	AAV91651	AAV91651 Human sec
45	80.5	29.5	116	3	AAV81212	Egg white

ALIGNMENTS

RESULT 1
AAU79867 standard; peptide: 48 AA.
XX
AC AAU79867;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human Cystatin-8 (Zcys8) antigenic fragment #15.
XX
KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KW spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
XX sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.
XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026868.
XX
PR 01-SEP-2000; 2000US-0230230P.
XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
DR WPI, 2002-383044/41.
XX
PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 99; 100pp; English.
XX
CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large

CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX
SQ Sequence 48 AA:

Query Match 100.0%; Score 273; DB 5; Length 48;
Best Local Similarity 100.0%; Pred. No. 4.7e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NMEMQWTTCKPPTNCVPERELHKQVNCFFSVFVAVPMFEQYKILNK 48
DB 1 NMEMQWTTCKPPTNCVPERELHKQVNCFFSVFVAVPMFEQYKILNK 48

RESULT 2

AAU79866
ID AAU79866 standard; peptide; 59 AA.

AC AAU79866;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #14.

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KM sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.

XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026868.
XX
PR 01-SEP-2000; 2000US-0230230P.

XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
DR WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 99; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The

CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX
SQ Sequence 59 AA:

Query Match 100.0%; Score 273; DB 5; Length 59;
Best Local Similarity 100.0%; Pred. No. 6e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NMEMQWTTCKPPTNCVPERELHKQVNCFFSVFVAVPMFEQYKILNK 48
DB 12 NMEMQWTTCKPPTNCVPERELHKQVNCFFSVFVAVPMFEQYKILNK 59

RESULT 3

AAU79865
ID AAU79865 standard; peptide; 80 AA.

AC AAU79865;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #13.

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KM sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.

XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026868.
XX
PR 01-SEP-2000; 2000US-0230230P.

XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
DR WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 98; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis, modulating seminal
CC fluid viscosity, enhancing viability of cryopreserved sperm, sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.

CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
 XX Sequence 80 AA:

Query Match 100.0%; Score 273; DB 5; Length 80;
 Best Local Similarity 100.0%; Pred. No. 8.5e-29;
 Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 NVEMQWTTCCQKPEPTNCVPORELIHKQVNCFFSVFVAVPWFPEQYKILNK 48
 Db 33 NVEMQWTTCCQKPEPTNCVPORELIHKQVNCFFSVFVAVPWFPEQYKILNK 80

RESULT 4
 ID AAV79853 standard; protein; 115 AA.

AC AAV79853;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8) antigenic fragment #1.

KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic fragment.

OS Homo sapiens.

PN W0200220567-A2.

PD 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

PR 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

DR WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.

PS Claim 2; Page 94; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis; modulating seminal
 CC fluid viscosity; enhancing viability of cryopreserved sperm; sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 gene.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic fragment of human cystatin-8
 CC (Zcys8)
 XX Sequence 115 AA;
 SQ

Query Match 100.0%; Score 273; DB 5; Length 115;
 Best Local Similarity 100.0%; Pred. No. 1.3e-28;
 Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 NVEMQWTTCCQKPEPTNCVPORELIHKQVNCFFSVFVAVPWFPEQYKILNK 48
 Db 63 NVEMQWTTCCQKPEPTNCVPORELIHKQVNCFFSVFVAVPWFPEQYKILNK 110

RESULT 5
 ID AAV79854 standard; protein; 117 AA.

AC AAV79854;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8) antigenic fragment #2.

KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KM sperm motility; fertilisation; antigenic fragment.

OS Homo sapiens.

PN W0200220567-A2.

PD 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

PR 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

DR WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
 PT to inhibition of thrombotic events associated with cancer.

PS Claim 2; Page 94-95; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermatogenesis; modulating seminal
 CC fluid viscosity; enhancing viability of cryopreserved sperm; sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 gene.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic fragment of human cystatin-8
 CC (Zcys8)
 XX Sequence 117 AA;
 SQ Query Match 100.0%; Score 273; DB 5; Length 117;
 Best Local Similarity 100.0%; Pred. No. 1.3e-28;

Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NMEMQWTTCKPPTTNCVPOERELHKOVNCFVSFAVFWPEQYKILNK 48
 |||
 DB 65 NMEMQWTTCKPPTTNCVPOERELHKOVNCFVSFAVFWPEQYKILNK 112

RESULT 6
 ID AAV79852
 AC AAV79852 standard; protein; 137 AA.

XX AAV79852;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8).

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KW spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KW sperm motility; fertilisation.

XX Homo sapiens.

XX WO200220567-A2.

PD 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

XX 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

XX WPI; 2002-383044/41.

DR N-PDB; ABK49522.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 spermogenesis, and inhibiting cancer procoagulant protein which leads
 to inhibition of thrombotic events associated with cancer.

PS Claim 2; Page 93-94; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermogenesis; modulating seminal
 CC fluid viscosity; enhancing viability of cryopreserved sperm; sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This is the amino acid sequence of human cystatin-8 (Zcys8)

XX Sequence 137 AA;

QY Query Match 100.0%; Score 273; DB 5; Length 137;
 Best Local Similarity 100.0%; Pred. No. 1.6e-28;
 Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NMEMQWTTCKPPTTNCVPOERELHKOVNCFVSFAVFWPEQYKILNK 48

DB 85 NMEMQWTTCKPPTTNCVPOERELHKOVNCFVSFAVFWPEQYKILNK 132
 |||
 ID AAV79862
 AC AAV79862; peptide; 33 AA.

XX AAV79862;

DT 15-JUL-2002 (first entry)

DE Human cystatin-8 (Zcys8) antigenic fragment #10.

XX Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
 KW spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
 KW sperm motility; fertilisation; antigenic peptide.

XX Homo sapiens.

XX WO200220567-A2.

PD 14-MAR-2002.

PF 29-AUG-2001; 2001WO-US026868.

XX 01-SEP-2000; 2000US-0230230P.

PA (ZYMO) ZYMOGENETICS INC.

PI Holloway JL, Gao Z, Bishop PD;

XX WPI; 2002-383044/41.

PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
 spermogenesis, and inhibiting cancer procoagulant protein which leads
 to inhibition of thrombotic events associated with cancer.

PS Claim 2; Page 97; 100pp; English.

XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
 CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
 CC protein in an individual and thus inhibiting the thrombotic events
 CC associated with cancer; promoting spermogenesis; modulating seminal
 CC fluid viscosity; enhancing viability of cryopreserved sperm; sperm
 CC motility and fertilisation; and as antigenic peptides to generate
 CC antibodies. Zcys8 is useful as research reagent for characterising sites
 CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
 CC enhancing fertilisation during assisted reproduction in humans and in
 CC animals. Anti-(I) antibodies are useful to screen biological samples like
 CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
 CC presence of Zcys8. The antibodies are also useful to isolate large
 CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
 CC The polynucleotide encoding (I) is useful to detect and to localise the
 CC expression of a Zcys8 gene in a biological sample and Zcys8
 CC oligonucleotide probes are useful for in vivo diagnosis. The
 CC polynucleotide encoding (I) is useful in determining whether a subject's
 CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
 CC copy number changes, insertions, deletions, restriction site changes and
 CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
 CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)

XX Sequence 33 AA;

QY Query Match 48.7%; Score 133; DB 5; Length 33;
 Best Local Similarity 100.0%; Pred. No. 1.9e-10;
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NMEMQWTTCKPPTTNCVPOERE 23
 |||
 DB 11 NMEMQWTTCKPPTTNCVPOERE 33

```

RESULT 8
AAU79864
ID AAU79864 standard; peptide: 52 AA.
XX
AC AAU79864;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human cystatin-8 (Zcys8) antigenic fragment #12.
XX
KM Cystatin-8; Zcys8; cancer; procoagulant protein; thrombosis;
KM spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KM sperm motility; fertilisation; antigenic peptide.
XX
OS Homo sapiens.
XX
PN WO200220567-A2.
XX
PD 14-MAR-2002.
XX
PF 29-AUG-2001; 2001WO-US026868.
XX
PR 01-SEP-2000; 2000US-0230230P.
XX
PA (ZYMO ) ZYMOGENETICS INC.
XX
PI Holloway JL, Gao Z, Bishop PD;
XX
DR WPI; 2002-383044/41.
XX
PT Novel isolated mammalian cystatin-8 polypeptide useful for promoting
PT spermatogenesis, and inhibiting cancer procoagulant protein which leads
PT to inhibition of thrombotic events associated with cancer.
XX
PS Claim 2; Page 98; 100pp; English.
XX
CC The invention describes an isolated mammalian cystatin-8 (Zcys8)
CC polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
CC protein in an individual and thus inhibiting the thrombotic events
CC associated with cancer; promoting spermatogenesis; modulating seminal
CC fluid viscosity; enhancing viability of cryopreserved sperm; sperm
CC motility and fertilisation; and as antigenic peptides to generate
CC antibodies. Zcys8 is useful as research reagent for characterising sites
CC of interaction between Zcys8 and its receptor. Zcys8 is useful in
CC enhancing fertilisation during assisted reproduction in humans and in
CC animals. Anti-(I) antibodies are useful to screen biological samples like
CC blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
CC presence of Zcys8. The antibodies are also useful to isolate large
CC quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
CC The polynucleotide encoding (I) is useful to detect and to localise the
CC expression of a Zcys8 gene in a biological sample and Zcys8
CC oligonucleotide probes are useful for in vivo diagnosis. The
CC polynucleotide encoding (I) is useful in determining whether a subject's
CC chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
CC copy number changes, insertions, deletions, restriction site changes and
CC rearrangements and genetic alterations that inactivate the Zcys8 gene.
CC This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX
SQ Sequence 52 AA;

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AC AAE02404;
XX
DT 10-AUG-2001 (first entry)
XX
DE Murine cystatin-related epididymal specific protein (CRES).
XX
KM Murine; cystatin T; zcys3; cystatin-related epididymal specific protein;
KM CRES; inhibitor; cysteine proteinase; male reproductive tissue; testis;
KM spermatogenesis; therapy; reproductive disorder.
XX
OS Mus musculus.
XX
PN US6235708-B1.
XX
PD 22-MAY-2001.
XX
PF 01-NOV-1999; 99US-00431480.
XX
PR 20-NOV-1998; 98US-0109217P.
XX
PR 28-SEP-1999; 99US-0156382P.
XX
PA (ZYMO ) ZYMOGENETICS INC.
XX
PI Holloway JL, Feldhaue AL;
XX
DR WPI; 2001-342846/36.
XX
PT Cystatin T polypeptides are useful for modulating spermatogenesis and
PT studying, diagnosing and treating reproductive disorders.
XX
PS Disclosure; Col 45-46; 32pp; English.
XX
CC The present invention relates to cystatin T (also known as zcys3) DNA and
CC protein sequences. Cystatin T is testis specific and is homologous to
CC cystatin-related epididymal specific gene (CRES) and type 2 cystatins.
CC Cystatins inhibit cysteine proteinases and are found with male
CC reproductive tissues and secretions. Cystatin T sequence is useful for
CC modulating spermatogenesis and studying, diagnosing and treating
CC reproductive disorders. The present sequence is murine cystatin-related
CC epididymal specific (CRES) protein
XX
SQ Sequence 142 AA;

```

Query Match 39.4%; Score 107.5; DB 4; Length 142;
 Best Local Similarity 39.2%; Pred. No. 2.7e-06;
 Matches 20; Conservative 16; Mismatches 12; Indels 3; Gaps 2;

```

OY 1 NVEWQWTTCKP--ETTCVPOER-ELHKOVNCPFSVFAVPMFROYKILNK 48
DB 87 DVQISRSNCKKPLANTNENCIPOKKPELEKMGSCSFLVGALPMNGEFPULSK 137

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```

RESULT 10
AAE04433
ID AAE04433 standard; protein: 142 AA.
XX
AC AAE04433;
XX
DT 04-SEP-2001 (first entry)
XX
DE Mouse cystatin-related epididymal specific (CRES) protein.
XX
KM Mouse; cystatin T; zcys3; testis specific; spermatogenesis modulator;
KM cystatin-related epididymal specific gene; CRES; gene therapy;
KM sperm production; antiinfertility.
XX
OS Mus musculus.
XX
PN US6245529-B1.
XX
PD 12-JUN-2001.
XX
PF 17-JUL-2000; 2000US-00617302.

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XX      20-NOV-1998;          98US-0109217P.
PR      28-SEP-1999;          98US-0156382P.
PR      01-NOV-1999;          99US-00431460.
PA      (ZYMO ) ZYMOGENETICS INC.
XX      Holloway JL, Feldhaus AL;
PI      WPI; 2001-407271/43.
XX      New polynucleotides encoding testis-specific cystatin-like protein
PT      cystatin T, useful in gene therapy for modulating cystatin T activity,
PT      particularly for modulating spermatogenesis, or enhancing sperm
XX      production or fertility.
PS      Disclosure; Col 47-48; 33pp; English.
XX      The present sequence is mouse cystatin-related epididymal specific (CRES)
CC      protein which is homologous to mouse testis specific cystatin T (also
CC      known as zcys3). The cystatin T polynucleotide is useful in gene therapy
CC      applications, where it is desired to increase or inhibit cystatin T
CC      activity. It is also useful for producing cystatin T polypeptide, as well
CC      as for detecting the expression of a cystatin T gene in a biological
CC      sample. The cystatin T is useful for modulating spermatogenesis, and may
CC      be used to study or modulate that function in vitro or in vivo
CC      system. In particular, it is also useful for enhancing sperm production,
CC      increasing the number of viable sperm in a sample, or enhancing
CC      fertilisation
XX      Sequence 142 AA;
SQ
Query Match           39.4%; Score 107.5; DB 4; Length 142;
Best Local Similarity 39.2%; Pred. No. 2.7e-06;
Matches 20; Conservative 16; Mismatches 12; Indels 3; Gaps 2;
QY      1 NVEWQMTTCCKP--ETTNCVPOER-ELHKOVNCFESVFAPVPFEGYKTLNK 48
        ::::|||||:|||||::|::|::|::|::|::|::|::|::|::|::|
DB      87 DVQISRSNCKPLNTNTENCIPQKKPELTKKSCSFLVALPWNGEFNLISK 137
RESULT 11
ID      ADA14374 standard; protein; 143 AA.
XX      ADA14374;
XX      06-NOV-2003 (first entry)
XX      Mouse spermatogenesis related protein sequence SEQ ID NO:116.
DE      mouse; spermatogenesis; gene cluster; mutagenicity;
KW      reproductive toxicity; reproductive capacity; mutation;
KW      expression abnormality; human male sterility associated gene; scot-t;
XX      succinyl CoA:3-oxo acid CoA transferase; human male sterility.
XX      Mus musculus.
OS      WO200306969-A1.
XX      PN      21-AUG-2003.
XX      PF      14-FEB-2003; 2003WO-JP001572.
XX      PR      14-FEB-2002; 2002JP-00036649.
XX      PR      27-DEC-2002; 2002JP-00381241.
XX      PA      (NISC-) JAPAN SCI & TECHNOLOGY CORP.
XX      PI      Nishimune Y, Tanaka H, Nozaki M;
XX      WPI; 2003-671663/63.
XX      N-PSDB; ADA14477.

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[illegible]


```
PF      14-AUG-2002; 2002MO-USO25765.  
XX  
XX      14-AUG-2001; 2001US-0312147P.  
PR      01-NOV-2001; 2001US-0346382P.  
XR      26-NOV-2001; 2001US-0333347P.  
XX  
PA      (GENO ) GEN HOSPITAL CORP.  
PB      (FARB ) BAYER AG.  
PI  
PM      Woolf C, D'urso D, Befort K, Costigan M;  
PP      WPI : 2003-268312/26.  
DR      GENE BANK; AACG6317.  
RX  
  
New composition comprising two or more isolated polypeptides, useful for preparing a medicament for treating pain in an animal.
```

Claim 1; Page: 1017pp; English.

The invention discloses a composition comprising two or more isolated rat CC or human polynucleotides or a polynucleotide which represents a fragment, CC derivative or allelic variation of the nucleic acid sequence. Also CC claimed are a vector comprising the novel polynucleotide, a host cell CC comprising the vector, a method for identifying a nucleotide sequence CC which is differentially regulated in an animal subjected to pain and a CC kit to perform the method, an array, a method for identifying an agent CC that increases or decreases the expression of the polynucleotide sequence CC that is differentially expressed in neuronal tissue of a first animal CC subjected to pain, a method for identifying a compound which regulates CC the expression of a polynucleotide sequence which is differentially CC expressed in an animal subjected to pain, a method for identifying a CC compound that regulates the activity of one or more of the CC polynucleotides, a method for producing a pharmaceutical composition, a CC method for identifying a compound or small molecule that regulates the CC activity in an animal of one or more of the polypeptides given in the CC specification, a method for identifying a compound useful in treating CC pain and a pharmaceutical composition comprising the one or more CC polypeptides or their antibodies. The polynucleotide or the compound that CC modulates its activity is useful for preparing a medicament for treating CC pain (e.g., spinal segmental nerve injury (SNI), chronic constriction CC injury (CCI) and spared nerve injury (SNI)) in an animal (e.g., gene therapy). The sequence presented is a rat protein (shown in Table 2 of CC the specification) which is differentially expressed during pain. Note:
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic form directly from WIPO at
CC ftp.wipo.int/pub/published_pct_sequences.
SQ

Sequence 142 AA;

Query Match 36.8%; Score 100.5; DB 7; Length 142;
Best Local Similarity 37.3%; Pred. No. 2,3e-05;
Matches 19; Conservative 16; Mismatches 13; Indels 3; Gaps 2;

Dy 1 NVEMQTTCKRP--ETNVCVPQER-BLHKOVNCFFSVFAVPWFQYKILNK 48
 ::: |::| ::||: ||::|: |::|: |::|: |: |
Db 87 DVQSRSNRCKRPLNTTENCIPQRKPDKLEKKLSCEFLVGALPWNGEPDLISK 137

RESULT 14
AAU0877 ID AAU09877 standard; protein; 148 AA.
AC AAU09877;
AM Novel human secreted protein #18.
DE Secreted protein; cytostatic; immunosuppressive; vulnery; vaccine;
KW antiinflammatory; neuroprotective; nephrotoxic; cardiovascular; human;
KM cancer; autoimmune disease; wound healing disorder; infection;
KN haematopoietic disorder; inflammatory disorder; infertility;

KM neurological disease; psychiatric disease; cardiovascular disease;
KW respiratory disease; renal; gastrointestinal.
XX Homo sapiens.
OS
PN WO200179454-A1.
PD 25-OCT-2001.
PP 11-APR-2001; 2001WO-US011797.
PR 13-APR-2000; 2000US-0196603P.
PR 24-APR-2000; 2000US-0199417P.
PA (SMIK) SMITHKLINE BEECHAM CORP.
PA (SMIK) SMITHKLINE BEECHAM PLC.
PI Agarwal P, Murdoch PR, Rizvi SK, Smith RF, Xiang Z;
PS WPI: 2002-061975/08.
DR N-PSTDB; AAS17589.
PT New secreted proteins or polypeptides, useful for treating e.g. cancer,
PT autoimmune diseases, wound healing disorder, infections, hematopoietic
PT disorders, inflammatory disorders, infertility, cancer.
XX
XX Claim 1; Page 79-80; 92pp; English.
XX
XX The invention relates to an isolated novel secreted polypeptide (I) and
CC polynucleotide (II). (I) and (II) are useful for treating cancer,
CC autoimmune diseases, wound healing disorder, infections, haematopoietic
CC disorders, inflammatory disorders, infertility, neurological and
CC psychiatric diseases, cardiovascular diseases, respiratory diseases,
CC renal diseases, or gastrointestinal diseases. These may also be used to
CC treat diseases, abnormalities and disorders caused by abnormal
CC expression, production, function and/or metabolism of the genes, as
CC vaccines for inducing immunological response in a mammal, and in
CC screening methods for detecting the effect of added compounds on the
CC production of mRNA and polypeptide in cells. The polypeptides can be used
CC as immunogens to produce antibodies immunospecific for the polypeptides,
CC and to identify membrane-bound or soluble receptors. The polynucleotides
CC may be used as diagnostic reagents, in chromosome localisation studies,
CC and in tissue expression studies. The present sequence represents the
CC amino acid sequence of novel human secreted protein #18
XX
SQ Sequence 148 AA;

Query Match 35.0%; Score 95.5; DB 5; Length 148;
Best Local Similarity 37.3%; Pred. No. 0.00011;
Matches 19; Conservative 11; Mismatches 18; Indels 3; Gaps 2;

QY 1 NVEMQWTTTCOK--PETTNCVDPER-ELKHQVNCFFSVAVPFECYKILNK 48
:::|::|::|::|::|::|::|::|::|::|::|::|::|
Dd 91 NLGRLQRTQCRKRFDIDINCDFESLANTTFCTFTISTRPWMQFSLNK 141

RESULT 15
AAU79860
ID AAU79860 standard; peptide; 46 AA.
XX
XX AAU79860;
XX
DT 15-JUL-2002 (first entry)
DE Human cystatin-B (ZcysB) antigenic fragment #8.
XX
XX Cystatin-B; ZcysB; cancer; prococagulant protein; thromboisis;
KW spermatogenesis; seminal fluid viscosity; cryopreserved sperm;
KW sperm motility; fertilization; antigenic peptide.
OS
OS Homo sapiens.
PN WO200220567-A2.

```

PD 14-MAR-2002.
PP
XX
XX 29-AUG-2001, 2001MO-US0266868.
XX
XX 01-SEP-2000, 2000US-0230230P.
XX
XX (ZYMO ) ZYMOGENETICS INC.
XX
XX Holloway JL, Gao Z, Bishop PD;
XX
XX WPI; 2002-383044/41.
XX
XX Novel isolated mammalian cystatin-8 polypeptide useful for promoting
XX spermatogenesis, and inhibiting cancer procoagulant protein which leads
XX to inhibition of thrombotic events associated with cancer.
XX
XX Claim 2; Page 97; 100p; English.
XX
XX The invention describes an isolated mammalian cystatin-8 (Zcys8)
XX polypeptide (I). (I) is useful for: inhibiting cancer procoagulant
XX protein in an individual and thus inhibiting the thrombotic events
XX associated with cancer; promoting spermatogenesis, modulating seminal
XX fluid viscosity, enhancing viability of cryopreserved sperm, sperm
XX motility and fertilisation; and as antigenic peptides to generate
XX antibodies. Zcys8 is useful as research reagent for characterizing sites
XX of interaction between Zcys8 and its receptor. Zcys8 is useful in
XX enhancing fertilisation during assisted reproduction in humans and in
XX animals. Anti-(I) antibodies are useful to screen biological samples like
XX blood, urine, saliva, tissue biopsy and autopsy material in vitro for the
XX presence of Zcys8. The antibodies are also useful to isolate large
XX quantities of Zcys8 protein and DNA sequences that encode Zcys8 genes.
XX The polynucleotide encoding (I) is useful to detect and to localise the
XX expression of a Zcys8 gene in a biological sample and Zcys8
XX oligonucleotide probes are useful for in vivo diagnosis. The
XX polynucleotide encoding (I) is useful in determining whether a subject's
XX chromosomes contain a mutation in the Zcys8 gene like aneuploidy, gene
XX copy number changes, insertions, deletions, restriction site changes and
XX rearrangements and genetic alterations that inactivate the Zcys8 gene.
XX This sequence represents an antigenic peptide of human cystatin-8 (Zcys8)
XX
XX Sequence 46 AA;
XX
XX Query Match 34.1%; Score 93; DB 5; Length 46;
XX Best Local Similarity 100.0%; Pred. No. 6,6e-05;
XX Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 1 NVEQMWTTCCKPRTTN 16
XX ||||||||||||
XX Db 31 NVEQMWTTCCKPRTTN 46

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Search completed: March 23, 2004, 17:10:28
Job time : 38.3598 secs

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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:07:14 ; Search time 10.6444 Seconds

(without alignments)
232,804 Million cell updates/sec

Title: US-09-941-314-17

Perfect score: 273
Sequence: 1 NVEMQMTTCKPRTTNCVPO.....NCFPSVAVPWPEQYKILNK 48

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Issued Patents AA:*

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- 2: /cgn2_6/ptodate/2/iaa/5B COMB.pep:*
- 3: /cgn2_6/ptodate/2/iaa/6A COMB.pep:*
- 4: /cgn2_6/ptodate/2/iaa/6B COMB.pep:*
- 5: /cgn2_6/ptodate/2/iaa/PCtus COMB.pep:*
- 6: /cgn2_6/ptodate/2/iaa/backfile1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	107.5	39.4	142	3	US-09-431-480-3
2	107.5	39.4	142	3	US-09-617-302-3
3	85.5	31.3	142	3	US-09-431-480-4
4	85.5	31.3	142	3	US-09-617-302-4
5	80.5	29.5	96	4	US-09-489-847-334
6	80.5	29.5	148	4	US-09-489-847-187
7	80.5	29.5	166	4	US-09-489-847-335
8	79.5	29.1	115	4	US-09-775-932-16
9	79.5	29.1	139	2	US-08-791-522-4
10	79.5	29.1	139	3	US-09-314-777-4
11	79.5	29.1	139	4	US-08-849-303-15
12	78.5	28.8	127	4	US-08-849-303-19
13	76	27.8	146	6	5432264-6
14	75.5	27.7	121	4	US-09-775-932-4
15	75.5	27.7	141	3	US-08-744-138-5
16	75.5	27.7	141	3	US-09-431-480-11
17	75.5	27.7	141	3	US-09-617-302-11
18	75.5	27.7	141	3	US-09-241-376-5
19	75.5	27.7	141	4	US-09-940-497-5
20	75.5	27.7	141	4	US-08-849-303-22
21	74.5	27.3	121	4	US-09-775-932-8
22	74.5	27.3	141	3	US-08-744-138-6
23	74.5	27.3	141	4	US-09-241-376-6
24	74.5	27.3	141	4	US-09-940-497-6
25	74.5	27.3	141	4	US-08-849-303-24
26	73.5	26.9	120	4	US-09-775-932-2
27	73.5	26.9	120	6	5432264-4

28	73.5	26.9	122	4	US-09-775-932-10	Sequence 10, Appl
29	73.5	26.9	140	3	US-09-431-480-5	Sequence 5, Appl
30	73.5	26.9	140	3	US-09-617-302-5	Sequence 5, Appl
31	73.5	26.9	140	4	US-09-886-319A-46	Sequence 46, Appl
32	73.5	26.9	140	4	US-09-886-319A-48	Sequence 48, Appl
33	73.5	26.9	140	4	US-08-849-303-18	Sequence 18, Appl
34	73.5	26.9	142	3	US-08-744-138-7	Sequence 7, Appl
35	73.5	26.9	142	3	US-09-431-480-7	Sequence 7, Appl
36	73.5	26.9	142	3	US-09-617-302-7	Sequence 7, Appl
37	73.5	26.9	142	4	US-09-241-376-4	Sequence 4, Appl
38	73.5	26.9	142	4	US-09-940-497-4	Sequence 4, Appl
39	73.5	26.9	142	4	US-09-976-594-358	Sequence 38, Appl
40	73.5	26.9	142	4	US-08-849-303-20	Sequence 20, Appl
41	73.5	26.9	145	2	US-08-832-535-11	Sequence 11, Appl
42	73.5	26.9	146	2	US-08-791-522-3	Sequence 3, Appl
43	73.5	26.9	146	3	US-08-744-138-3	Sequence 3, Appl
44	73.5	26.9	146	3	US-09-019-485-4	Sequence 4, Appl
45	73.5	26.9	146	3	US-09-314-777-3	Sequence 3, Appl

ALIGNMENTS

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RESULT 1
US-09-431-480-3
Sequence 3, Application US/09431480
Patent No. 6235708
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72
CURRENT APPLICATION NUMBER: US/09/431,480
EARLIER FILING DATE: 1999-11-01
EARLIER APPLICATION NUMBER: 60/109,217
EARLIER FILING DATE: 1998-11-20
EARLIER APPLICATION NUMBER: 60/156,382
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 3
LENGTH: 142
TYPE: PRT
ORGANISM: Mus musculus
US-09-431-480-3

Query Match          39.4%; Score 107.5; DB 3; Length 142;
Best Local Similarity 39.2%; Pred. No. 1.8e-07;
Matches 20; Conservative 16; Mismatches 12; Indels 3; Gaps 2;

QY      1 NVEMQMTTCKP--ETTNCVPOER-ELHKOVNCFPSVAVPWPEQYKILNK 48
      : : : : : : : : : : : : : : : : : : : : : : : : : : : :
Db      87 DVQSRNCKKPLINTENCIPQKKPELEKTKMSCFVLGALPWNGEFMLSK 137

RESULT 2.
US-09-617-302-3
Sequence 3, Application US/09617302
Patent No. 6245529
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
FILE REFERENCE: 98-72 C1
CURRENT APPLICATION NUMBER: US/09/617,302
CURRENT FILING DATE: 2000-07-17
PRIOR APPLICATION NUMBER: 09/431,480
PRIOR FILING DATE: 1999-11-01
PRIOR APPLICATION NUMBER: 60/109,217
PRIOR FILING DATE: 1998-11-20
PRIOR APPLICATION NUMBER: 60/156,382
PRIOR FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
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; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 3
; LENGTH: 142
; TYPE: prt
; ORGANISM: Mus musculus
US-09-617-302-3

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Query Match	39.4%	Score 107.5;	DB 3;	Length 142;
Best Local Similarity	39.2%;	Pred. No. 1.8e-07;		
Matches 20;	Conservative 16;	Mismatches 12;	Indels 3;	Gaps 2;

Dy 1 NVENQWTTCKRP--ETTNCPQER-ELHKQVNFSSVFANPWFEEQYKLNK 48
Ddb 87 DVQISRSNCKRPLNTTENCIPQKKPELEKMSCSFLVGALPWNGEFNLISK 137

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RESULT 3
US-09-431-480-4
: Sequence 4, Application US/09431480
: Patent No. 6235708
: GENERAL INFORMATION:
: APPLICANT: Holloway, James L.
: APPLICANT: Felthaus, Andrew
: TITLE OF INVENTION: TESTIS SPECIFIC CYSTATIN-LIKE PROTEIN CYSTATIN T
: FILE REFERENCE: 98-72
: CURRENT APPLICATION NUMBER: US/09/431,480
: CURRENT FILING DATE: 1999-11-01
: EARLIER APPLICATION NUMBER: 60/109,217
: EARLIER FILING DATE: 1998-11-20
: EARLIER APPLICATION NUMBER: 60/156,382
: EARLIER FILING DATE: 1999-09-28
: NUMBER OF SEQ ID NOS: 22
: SOFTWARE: FastSeq for Windows Version 3.0
: SEQ ID NO 4
: LENGTH: 142
: TYPE: PRT
: ORGANISM: Homo sapiens
: US-09-431-480-4

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Query Match	31.3%	Score 85.5;	DB 3;	length 142;
Best Local Similarity	35.3%	Pred. No. 0.00022;		
Matches	18;	Conservative	15;	Mismatches 15;
			Indels	3;
			Gaps	2

Qy	1	NVENOMTTCCXRPETTN--CVPOER-ELHKQNCVPSVPAWPMFEDYKILNK	48
	:	:	:
	:	:	:
Db	87	DVEIARSCRPLSTNEICAIQENSKLRKSCSLVGLALPNNGGFTTWK	137
	:	:	:
	:	:	:
	:	:	:

```

RESULT 4
US-09-617-302-4
Sequence 4, Application US/09617302
Patent No. 6245529
GENERAL INFORMATION:
APPLICANT: Holloway, James L.
APPLICANT: Feldhaus, Andrew
TITLE OF INVENTION: TESTIS SPECIFIC CYSTR
FILE REFERENCE: 98-72 C1
CURRENT APPLICATION NUMBER: US/09/617,302
CURRENT FILING DATE: 2000-07-17
PRIORITY APPLICATION NUMBER: 09/431,480
PRIORITY FILING DATE: 1999-11-01
PRIORITY APPLICATION NUMBER: 60/109,217
PRIORITY FILING DATE: 1998-11-20
PRIORITY APPLICATION NUMBER: 60/156,382
PRIORITY FILING DATE: 1999-09-28
NUMBER OF SEQ ID NOS: 22
SOFTWARE: FastSeq for Windows Version 3.0.0
SEQ ID NO 4
LENGTH: 142
TYPE: PRT
ORGANISM: Homo sapiens
US-09-617-302-4

```

Query Match	31.3%	Score 85.5;	DB 3;	Length 142;
Best Local Similarity	35.3%	Pred. No. 0.00022;		
Matches 18;	Conservative 15;	Mismatches 15;	Indels 3;	Gaps 2;

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Qy      1 NVENQMTTCQKPETN--CVPOER-ELHKQVNCFFSVFVAPMFWEQYKLLNK 48
      :|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|
Db      87 DVEIARSDCKPLSTNEICAIQENSKLKRKLSCSFLVGALPNWNGEFTVMEK 137

```

RESULT 5
US-09-489-847-334

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APPLICANT: Rosen et al
TITLE OF INVENTION: 98 Human Secreted Proteins
FILE REFERENCE: P2031p1
CURRENT FILING NUMBER: US/05/469, 847
CURRENT FILING DATE: 2000-01-24
EARLIER APPLICATION NUMBER: PCT/US99/17130
EARLIER FILING DATE: 1999-07-29
EARLIER APPLICATION NUMBER: 60/094, 657
EARLIER FILING DATE: 1998-07-30
EARLIER APPLICATION NUMBER: 60/095, 486
EARLIER FILING DATE: 1998-08-05
EARLIER APPLICATION NUMBER: 60/096, 319
EARLIER FILING DATE: 1998-08-12
EARLIER APPLICATION NUMBER: 60/095, 454
EARLIER FILING DATE: 1998-08-06
EARLIER APPLICATION NUMBER: 60/095, 455
EARLIER FILING DATE: 1998-08-06
NUMBER OF SEQ ID NOS: 376
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 314
LENGTH: 96
TYPE: PRT
ORGANISM: Homo sapiens
US-09-489-847-334

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	Query Match	29.5%	Score 80.5;	DB 4	Length 96;
	Best Local Similarity	40.0%;	Pred. No. 0.00069;		
	Matches	18;	Conservative	6;	Mismatches 18; Indels 3; Gaps 2
Oy	7	TTCGK--PRTNYCVPQE-REHAKOVNCFPSFANVPMFEQYIKLNK	48		
Ob	50	TRCKEFEDDIDNCHPQESTELNTFTCCFTILSTPRMWTQSLNK	94		

RESULT 6
 US-09-489-847-187
 ; Sequence 187, Application US/09489847
 ; Patent No. 6476195
 ; GENERAL INFORMATION:
 ; APPLICANT: Rosen et al
 ; TITLE OF INVENTION: 98 Human Secreted Proteins.
 ; FILE REFERENCE: P203JP1
 ; CURRENT APPLICATION NUMBER: US/09/489,847
 ; CURRENT FILING DATE: 2000-01-24
 ; EARLIER APPLICATION NUMBER: PCT/US99/17130
 ; EARLIER FILING DATE: 1999-07-29
 ; EARLIER APPLICATION NUMBER: 60/094,657
 ; EARLIER FILING DATE: 1998-07-30
 ; EARLIER APPLICATION NUMBER: 60/095,486
 ; EARLIER FILING DATE: 1998-08-05
 ; EARLIER APPLICATION NUMBER: 60/096,319
 ; EARLIER FILING DATE: 1998-08-12
 ; EARLIER APPLICATION NUMBER: 60/095,454
 ; EARLIER FILING DATE: 1998-08-06
 ; EARLIER APPLICATION NUMBER: 60/095,455
 ; EARLIER FILING DATE: 1998-08-06
 ; NUMBER OF SEQ ID NOS: 376
 ; SOFTWARE: PatentIn Ver. 2.0
 ; SEQ ID NO 187

LENGTH: 148
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: SITE
LOCATION: (148)
OTHER INFORMATION: Xaa equals stop translation
US-09-489-847-187

Query Match 29.5%; Score 80.5; DB 4; Length 148;
Best Local Similarity 40.0%; Pred. No. 0.0012;
Matches 18; Conservative 6; Mismatches 18; Indels 3; Gaps 2;

Qy 7 TTCC--PETTNCVPOE-REILKQVNCFFSVFVAVPWFQYKILK 48
Db 96 TRCGKEDDIDNCHFGESTELNMTFTCTFTSTPRMTQPSLANK 140

RESULT 7
US-09-489-847-335
Sequence 335, Application US/09489847
Patent No. 6476195
GENERAL INFORMATION:
APPLICANT: Rosen et al
TITLE OF INVENTION: 98 Human Secreted Proteins
FILE REFERENCE: P2031P1
CURRENT APPLICATION NUMBER: US/09/489,847
EARLIER FILING DATE: 2000-01-24
EARLIER APPLICATION NUMBER: PCT/US99/17130
EARLIER FILING DATE: 1999-07-29
EARLIER APPLICATION NUMBER: 60/094,657
EARLIER FILING DATE: 1998-07-30
EARLIER APPLICATION NUMBER: 60/095,486
EARLIER FILING DATE: 1998-08-05
EARLIER APPLICATION NUMBER: 60/096,319
EARLIER FILING DATE: 1998-08-12
EARLIER APPLICATION NUMBER: 60/095,454
EARLIER FILING DATE: 1998-08-06
EARLIER APPLICATION NUMBER: 60/095,455
EARLIER FILING DATE: 1998-08-06
NUMBER OF SEQ ID NOS: 376
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 335
LENGTH: 166
TYPE: PRT
ORGANISM: Homo sapiens
US-09-489-847-335

Query Match 29.5%; Score 80.5; DB 4; Length 166;
Best Local Similarity 40.0%; Pred. No. 0.0013;
Matches 18; Conservative 6; Mismatches 18; Indels 3; Gaps 2;

Qy 7 TTCC--PETTNCVPOE-REILKQVNCFFSVFVAVPWFQYKILK 48
Db 115 TRCGKEDDIDNCHFGESTELNMTFTCTFTSTPRMTQPSLANK 159

RESULT 8
US-09-775-932-16
Sequence 16, Application US/09775932
Patent No. 6534477
GENERAL INFORMATION:
APPLICANT: University of British Columbia
TITLE OF INVENTION: Production and use of Modified Cystatins
FILE REFERENCE: 58069
CURRENT APPLICATION NUMBER: US/09/775,932
CURRENT FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: CA99/00717
PRIOR FILING DATE: 1999-08-05
PRIOR APPLICATION NUMBER: 60/095,503
PRIOR FILING DATE: 1998-08-05
NUMBER OF SEQ ID NOS: 32
SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 16
LENGTH: 116
TYPE: PRT
ORGANISM: Gallus sp.
US-09-775-932-16

Query Match 29.1%; Score 79.5; DB 4; Length 116;
Best Local Similarity 37.5%; Pred. No. 0.0012;
Matches 18; Conservative 8; Mismatches 19; Indels 3; Gaps 2;

Qy 2 VEMQWTTCKP--ETTNC-VPOREILKQVNCFFSVFVAVPWFQYKIL 46
Db 64 VEIGRTTCPSKSGDLOSCEFHDPEBMAKYTTCTFVVISIPWLNOIKLL 111

RESULT 9
US-08-791-522-4
Sequence 4, Application US/08791522
Patent No. 5935817
GENERAL INFORMATION:
APPLICANT: Bandman, Olga
APPLICANT: Goll, Surya K.
TITLE OF INVENTION: NOVEL HUMAN CYSTATIN-LIKE
TITLE OF INVENTION: PROTEIN
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
CITY: Palo Alto
STATE: CA
COUNTRY: USA
ZIP: 94304

COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSeq for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/791,522
FILING DATE: Filed Herewith
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Billings, Lucy J.
REGISTRATION NUMBER: 36,749
REFERENCE/DOCKET NUMBER: PF-0193 US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
TELEFAX: 415-845-4166
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 139 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
IMMEDIATE SOURCE:
LIBRARY: Genbank
CLONE: 118195
US-08-791-522-4

Query Match 29.1%; Score 79.5; DB 2; Length 139;
Best Local Similarity 37.5%; Pred. No. 0.0015;
Matches 18; Conservative 8; Mismatches 19; Indels 3; Gaps 2;

Qy 2 VEMQWTTCKP--ETTNC-VPOREILKQVNCFFSVFVAVPWFQYKIL 46
Db 87 VEIGRTTCPSKSGDLOSCEFHDPEBMAKYTTCTFVVISIPWLNOIKLL 134

RESULT 10
US-09-314-777-4

Sequence 4, Application US/09314777
Patent No. 6110686
GENERAL INFORMATION:
APPLICANT: Bandman, Olga
APPLICANT: Goll, Surya K.
TITLE OF INVENTION: NOVEL HUMAN CYSTATIN-LIKE
TITLE OF INVENTION: PROTEIN
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
CITY: Palo Alto
STATE: CA
COUNTRY: USA
ZIP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSeq for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/314,777
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/791,522
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Billings, Lucy J.
REGISTRATION NUMBER: 36,749
REFERENCE/DOCKET NUMBER: PP-0193 US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
TELEFAX: 415-845-4166
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 139 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
IMMEDIATE SOURCE:
LIBRARY: GenBank
CLONE: 118195
US-09-314-777-4

Query Match 29.1%; Score 79.5; DB 3; Length 139;
Best Local Similarity 37.5%; Pred. No. 0.0015;
Matches 18; Conservative 8; Mismatches 19; Indels 3; Gaps 2;

QY 2 VEMQWTTCKRP--ETTNC-VQERELHKQVNCFFSVAVPWFQYKIL 46
DB 87 VEIGRTTCPKSSGDLQSCFHDPEPMKVTCTFVVVSIPLNLQIKLL 134

RESULT 11
US-08-849-303-15
Sequence 15, Application US/08849303
Patent No. 6680424
GENERAL INFORMATION:
APPLICANT: Atkinson, Howard J.
APPLICANT: McPherson, Michael J.
APPLICANT: Urwin, Peter E.
TITLE OF INVENTION: MODIFIED PROTEINASE INHIBITORS
NUMBER OF SEQUENCES: 79
CORRESPONDENCE ADDRESS:
ADDRESSEE: Klauber & Jackson
STREET: 411 Hackensack Avenue, 4th Floor
CITY: Hackensack
STATE: New Jersey
COUNTRY: USA
ZIP: 07601
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/849,303
FILING DATE: 21-MAY-1997
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Jackson Esq., David A.
REGISTRATION NUMBER: 26,742
REFERENCE/DOCKET NUMBER: 1321-1-003
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-487-5800
TELEFAX: 201-343-1684
TELEX: 133521
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 139 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
US-08-849-303-15

Query Match 29.1%; Score 79.5; DB 4; Length 139;
Best Local Similarity 37.5%; Pred. No. 0.0015;
Matches 18; Conservative 8; Mismatches 19; Indels 3; Gaps 2;

QY 2 VEMQWTTCKRP--ETTNC-VQERELHKQVNCFFSVAVPWFQYKIL 46
DB 87 VEIGRTTCPKSSGDLQSCFHDPEPMKVTCTFVVVSIPLNLQIKLL 134

RESULT 12
US-08-849-303-19
Sequence 19, Application US/08849303
Patent No. 6680424
GENERAL INFORMATION:
APPLICANT: Atkinson, Howard J.
APPLICANT: McPherson, Michael J.
APPLICANT: Urwin, Peter E.
TITLE OF INVENTION: MODIFIED PROTEINASE INHIBITORS
NUMBER OF SEQUENCES: 79
CORRESPONDENCE ADDRESS:
ADDRESSEE: Klauber & Jackson
STREET: 411 Hackensack Avenue, 4th Floor
CITY: Hackensack
STATE: New Jersey
COUNTRY: USA
ZIP: 07601
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/849,303
FILING DATE: 21-MAY-1997
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Jackson Esq., David A.
REGISTRATION NUMBER: 26,742
REFERENCE/DOCKET NUMBER: 1321-1-003
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-487-5800
TELEFAX: 201-343-1684
TELEX: 133521
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 127 amino acids
TYPE: amino acid
STRANDEDNESS: single

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: March 23, 2004, 17:10:34 ; Search time 25.908 Seconds
(without alignments)
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Title: US-09-941-314-17

Perfect score: 273
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Gapop 10.0 , Gapext 0.5

Searched: 1049977 seqs, 258955339 residues

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Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Published Applications AA:*
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18: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	273	100.0	48	9	US-09-941-314-17
2	273	100.0	59	9	US-09-941-314-16
3	273	100.0	80	9	US-09-941-314-15
4	273	100.0	115	9	US-09-941-314-3
5	273	100.0	117	9	US-09-941-314-4
6	273	100.0	137	9	US-09-941-314-2
7	133	48.7	33	9	US-09-941-314-12
8	133	48.7	52	9	US-09-941-314-14
9	95.5	35.0	148	12	US-10-257-174-42
10	93	34.1	46	9	US-09-941-314-10
11	93	34.1	49	9	US-09-941-314-13
12	93	34.1	132	9	US-09-921-180-2
13	92.5	33.9	148	10	US-09-873-135-2
14	87	31.9	145	9	US-09-740-638-2
15	87	31.9	145	13	US-10-006-467-2

16	87	31.9	145	14	US-10-235-148-2	Sequence 2, Appl1
17	87	31.9	145	14	US-10-168-425-14	Sequence 14, Appl1
18	87	31.9	165	9	US-09-740-638-5	Sequence 5, Appl1
19	87	31.9	165	13	US-10-006-467-5	Sequence 5, Appl1
20	87	31.9	165	13	US-10-235-148-5	Sequence 5, Appl1
21	80.5	29.5	96	12	US-10-351-334-334	Sequence 334, App
22	80.5	29.5	147	12	US-10-219-535-222	Sequence 222, App
23	80.5	29.5	147	12	US-10-232-230-222	Sequence 222, App
24	80.5	29.5	147	13	US-10-006-867-144	Sequence 144, App
25	80.5	29.5	147	13	US-10-063-547-144	Sequence 144, App
26	80.5	29.5	147	13	US-10-063-616-144	Sequence 144, App
27	80.5	29.5	147	14	US-10-063-502-144	Sequence 144, App
28	80.5	29.5	147	14	US-10-227-884-222	Sequence 222, App
29	80.5	29.5	147	14	US-10-230-163-222	Sequence 222, App
30	80.5	29.5	147	14	US-10-054-683-31	Sequence 31, Appl
31	80.5	29.5	147	14	US-10-230-338-222	Sequence 222, App
32	80.5	29.5	147	14	US-10-218-631-222	Sequence 222, App
33	80.5	29.5	147	14	US-10-063-518-144	Sequence 144, App
34	80.5	29.5	147	14	US-10-230-414-222	Sequence 222, App
35	80.5	29.5	147	14	US-10-063-598-144	Sequence 144, App
36	80.5	29.5	147	14	US-10-227-693-144	Sequence 144, App
37	80.5	29.5	147	14	US-10-063-567-144	Sequence 144, App
38	80.5	29.5	147	14	US-10-216-159A-222	Sequence 222, App
39	80.5	29.5	147	14	US-10-063-538-144	Sequence 144, App
40	80.5	29.5	147	14	US-10-218-849-222	Sequence 222, App
41	80.5	29.5	147	14	US-10-227-873-222	Sequence 222, App
42	80.5	29.5	147	14	US-10-227-883-222	Sequence 222, App
43	80.5	29.5	147	14	US-10-219-076-222	Sequence 222, App
44	80.5	29.5	147	14	US-10-230-434-222	Sequence 222, App
45	80.5	29.5	147	14	US-10-063-599-144	Sequence 144, App

ALIGNMENTS

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RESULT 1
US-09-941-314-17
Sequence 17, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
PRIOR FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
NUMBER OF SEQ ID NOS: 19
SOFTWARE: PatSeq for Windows Version 4.0
SEQ ID NO 17
LENGTH: 48
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-17

Query Match      100.0%; Score 273; DB 9; Length 48;
Best Local Similarity 100.0%; Pred. No. 3.6e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      1 NVEWMTTCCKPRTTNCVPOERELHKVNCFFSVAVPWFPEQYKILNK 48
Db      1 NVEWMTTCCKPRTTNCVPOERELHKVNCFFSVAVPWFPEQYKILNK 48

RESULT 2
US-09-941-314-16
Sequence 16, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
```

FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 16
LENGTH: 59
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-16

Query Match 100.0%; Score 273; DB 9; Length 59;
Best Local Similarity 100.0%; Pred. No. 4,5e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NVEWMTTCCPFTTNCVPOREIHKOVNCFPSVFAVPMFEQYKILNK 48
DB 12 NVEWMTTCCPFTTNCVPOREIHKOVNCFPSVFAVPMFEQYKILNK 59

RESULT 3
US-09-941-314-15
Sequence 15, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 15
LENGTH: 80
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-15

Query Match 100.0%; Score 273; DB 9; Length 80;
Best Local Similarity 100.0%; Pred. No. 6,4e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NVEWMTTCCPFTTNCVPOREIHKOVNCFPSVFAVPMFEQYKILNK 48
DB 33 NVEWMTTCCPFTTNCVPOREIHKOVNCFPSVFAVPMFEQYKILNK 80

RESULT 4
US-09-941-314-3
Sequence 3, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 3
LENGTH: 115
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-3

Query Match 100.0%; Score 273; DB 9; Length 115;
Best Local Similarity 100.0%; Pred. No. 9,6e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NVEWMTTCCPFTTNCVPOREIHKOVNCFPSVFAVPMFEQYKILNK 48
DB 63 NVEWMTTCCPFTTNCVPOREIHKOVNCFPSVFAVPMFEQYKILNK 110

RESULT 5
US-09-941-314-4
Sequence 4, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 4
LENGTH: 117
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-4

Query Match 100.0%; Score 273; DB 9; Length 117;
Best Local Similarity 100.0%; Pred. No. 9,8e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NVEWMTTCCPFTTNCVPOREIHKOVNCFPSVFAVPMFEQYKILNK 48
DB 65 NVEWMTTCCPFTTNCVPOREIHKOVNCFPSVFAVPMFEQYKILNK 112

RESULT 6
US-09-941-314-2
Sequence 2, Application US/09941314
Patent No. US20020142396A1
GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
FILE REFERENCE: 00-81PC
CURRENT APPLICATION NUMBER: US/09/941,314
CURRENT FILING DATE: 2001-08-29
PRIOR APPLICATION NUMBER: 60/230,230
PRIOR FILING DATE: 2001-09-01
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 137
TYPE: PRT
ORGANISM: Homo sapiens
US-09-941-314-2

Query Match 100.0%; Score 273; DB 9; Length 137;
Best Local Similarity 100.0%; Pred. No. 1,2e-28;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NVEWMTTCCPFTTNCVPOREIHKOVNCFPSVFAVPMFEQYKILNK 48
DB 85 NVEWMTTCCPFTTNCVPOREIHKOVNCFPSVFAVPMFEQYKILNK 132

RESULT 7
US-09-941-314-12
Sequence 12, Application US/09941314
Patent No. US20020142396A1

```

; GENERAL INFORMATION:
; APPLICANT: Zymogenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; PRIOR APPLICATION NUMBER: 2001-08-29
; PRIOR FILING DATE: 2001-09-01
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 12
; LENGTH: 33
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-12

Query Match          48.7%; Score 133; DB 9; Length 33;
Best Local Similarity 100.0%; Pred. No. 1.4e-10;
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 NVEMQWTTCKPFTTNCVPOERE 23
Db      11 NVEMQWTTCKPFTTNCVPOERE 33

RESULT 8
US-09-941-314-14
; Sequence 14, Application US/09941314
; Patent No. US20020142396A1
; GENERAL INFORMATION:
; APPLICANT: Zymogenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; CURRENT FILING DATE: 2001-08-29
; PRIOR APPLICATION NUMBER: 60/230,230
; PRIOR FILING DATE: 2001-09-01
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 14
; LENGTH: 52
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-14

Query Match          48.7%; Score 133; DB 9; Length 52;
Best Local Similarity 100.0%; Pred. No. 2.4e-10;
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 NVEMQWTTCKPFTTNCVPOERE 23
Db      30 NVEMQWTTCKPFTTNCVPOERE 52

RESULT 9
US-10-257-174-42
; Sequence 42, Application US/10257174
; Publication No. US20040034194A1
; GENERAL INFORMATION:
; APPLICANT: Agarwal, Pankaj
; APPLICANT: Murdoch, Paul R.
; APPLICANT: Rizvi, Safia K.
; APPLICANT: Smith, Randall F.
; APPLICANT: Xiang, Zhaoying
; TITLE OF INVENTION: NOVEL COMPOUNDS
; FILE REFERENCE: GP50022
; CURRENT APPLICATION NUMBER: US/10/257,174
; CURRENT FILING DATE: 2002-10-10
; PRIOR APPLICATION NUMBER: PCT/US01/11797
; PRIOR FILING DATE: 2001-04-11
; PRIOR APPLICATION NUMBER: 60/196,603
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; PRIOR FILING DATE: 2000-04-13
; PRIOR APPLICATION NUMBER: 60/199,417
; PRIOR FILING DATE: 2000-04-24
; NUMBER OF SEQ ID NOS: 48
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 42
; LENGTH: 148
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-257-174-42

Query Match          35.0%; Score 95.5; DB 12; Length 148;
Best Local Similarity 37.3%; Pred. No. 8.3e-05;
Matches 19; Conservative 11; Mismatches 18; Indels 3; Gaps 2;

QY      1 NVEMQWTTCK--PFTTNCVPOER-ELHKQVNCFFSVFAVPWFOYKILNK 48
Db      91 NLQLRQTVCRKFRDDIDNCPQESLELNTFTCFETISTRPWMTQFSLNK 141

RESULT 10
US-09-941-314-10
; Sequence 10, Application US/09941314
; Patent No. US20020142396A1
; GENERAL INFORMATION:
; APPLICANT: Zymogenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; CURRENT FILING DATE: 2001-08-29
; PRIOR APPLICATION NUMBER: 60/230,230
; PRIOR FILING DATE: 2001-09-01
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 46
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-10

Query Match          34.1%; Score 93; DB 9; Length 46;
Best Local Similarity 100.0%; Pred. No. 4.8e-05;
Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 NVEMQWTTCKPFTTN 16
Db      31 NVEMQWTTCKPFTTN 46

RESULT 11
US-09-941-314-13
; Sequence 13, Application US/09941314
; Patent No. US20020142396A1
; GENERAL INFORMATION:
; APPLICANT: Zymogenetics, Inc.
; TITLE OF INVENTION: Mammalian Cystatin-8 and Its Use to
; TITLE OF INVENTION: Inhibit Cancer Procoagulant Protein
; FILE REFERENCE: 00-81PC
; CURRENT APPLICATION NUMBER: US/09/941,314
; CURRENT FILING DATE: 2001-08-29
; PRIOR APPLICATION NUMBER: 60/230,230
; PRIOR FILING DATE: 2001-09-01
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 13
; LENGTH: 49
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-941-314-13

Query Match          34.1%; Score 93; DB 9; Length 49;
Best Local Similarity 100.0%; Pred. No. 5.2e-05;
```

Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 NVEMQWTTCKPRTN 16
| | | | | | | | | | | | | | | | | | | | | |
Db 34 NVEMQWTTCKPRTN 49

RESULT 12
US-09-921-180-2
; Sequence 2, Application US/09921180
; Publication No. US20020192798A1
; GENERAL INFORMATION:
; APPLICANT: Hollaway, James L.
; TITLE OF INVENTION: Zcy89: A member of the cystatin
; FILE REFERENCE: 00-57
; CURRENT APPLICATION NUMBER: US/09/921,180
; CURRENT FILING DATE: 2001-08-02
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 2
; LENGTH: 132
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-921-180-2

Query Match 34.1%; Score 93; DB 9; Length 132;
Best Local Similarity 41.7%; Pred. No. 0.00016;
Matches 20; Conservative 7; Mismatches 19; Indels 2; Gaps 1;

QY 2 VEMQWTTCKPRTN--PETNVCVQERELHKQVNCFSVFAVWPEQYKILN 47
| | | | | | | | | | | | | | | | | | | | | |
Db 81 LEMGLTRCKYDEIDNCPLOEGSAEKYCTFVMDARPFWSGPNLNL 128

RESULT 13
US-09-873-135-2
; Sequence 2, Application US/09873135
; Publication No. US20030165838A1
; GENERAL INFORMATION:
; APPLICANT: Presnell, Scott R.
; TITLE OF INVENTION: Zcy86: A Member of the Cystatin
; FILE REFERENCE: 00-37
; CURRENT APPLICATION NUMBER: US/09/873,135
; CURRENT FILING DATE: 2001-06-01
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 148
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-873-135-2

Query Match 33.9%; Score 92.5; DB 10; Length 148;
Best Local Similarity 37.3%; Pred. No. 0.00021;
Matches 19; Conservative 13; Mismatches 16; Indels 3; Gaps 2;

QY 1 NVEMQWTTCKPRTN--PETNVCVQERELHKQVNCFSVFAVWPEQYKILN 48
| | | | | | | | | | | | | | | | | | | | | |
Db 91 NLQRLQTVCKRKFEDDINDCPQESLELNTPSCFFVETWMTWXTYFELNKL 141

RESULT 14
US-09-740-638-2
; Sequence 2, Application US/09740638
; Patent No. US20020006656A1
; GENERAL INFORMATION:
; APPLICANT: Hollaway, James L.
; TITLE OF INVENTION: Zcy85: A Member of the Cystatin
; FILE REFERENCE: 99-104

; CURRENT APPLICATION NUMBER: US/09/740,638
; CURRENT FILING DATE: 2000-12-18
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 2
; LENGTH: 145
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-740-638-2

Query Match 31.9%; Score 87; DB 9; Length 145;
Best Local Similarity 29.2%; Pred. No. 0.0011;
Matches 14; Conservative 15; Mismatches 17; Indels 2; Gaps 1;

QY 2 VEMQWTTCKPRTN--CVQERELHKQVNCFSVFAVWPEQYKILN 47
| | | | | | | | | | | | | | | | | | | | | |
Db 84 VKIGWTKCKRNDTSNNSCPLOSKKRLCSLITWMTWXTYFELNKL 131

RESULT 15
US-10-006-467-2
; Sequence 2, Application US/10006467
; Publication No. US20020164740A1
; GENERAL INFORMATION:
; APPLICANT: Hollaway, James L.
; TITLE OF INVENTION: Zcy85: A Member of the Cystatin
; FILE REFERENCE: 99-104C1
; CURRENT APPLICATION NUMBER: US/10/006,467
; CURRENT FILING DATE: 2001-12-04
; PRIOR APPLICATION NUMBER: 60/172,119
; PRIOR FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: 09/740,638
; PRIOR FILING DATE: 2000-12-18
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 2
; LENGTH: 145
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-006-467-2

Query Match 31.9%; Score 87; DB 13; Length 145;
Best Local Similarity 29.2%; Pred. No. 0.0011;
Matches 14; Conservative 15; Mismatches 17; Indels 2; Gaps 1;

QY 2 VEMQWTTCKPRTN--CVQERELHKQVNCFSVFAVWPEQYKILN 47
| | | | | | | | | | | | | | | | | | | | | |
Db 84 VKIGWTKCKRNDTSNNSCPLOSKKRLCSLITWMTWXTYFELNKL 131

Search completed: March 23, 2004, 17:17:53
Job time : 26.908 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:06:09 ; Search time 8.83682 Seconds
(without alignments)
522.495 Million cell updates/sec

Title: US-09-941-314-17

Perfect score: 273
Sequence: 1 NVEMQMTTCCKPRTNCVPO.....NCFPSVPAVPMFQYKILNK 48

Scoring table: BIOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :
1: PIR 78:*
2: PIR1:*
3: PIR2:*
4: PIR3:*
4: PIR4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	107.5	39.4	139	2 A45361	cystatin-related e
2	79.5	29.1	139	1 UDCH	cystatin precursor
3	78.5	28.8	120	2 S10587	cystatin C - rat
4	78.5	28.8	127	2 S07085	cystatin C precurs
5	75.5	27.7	141	1 UDHP1	cystatin SA precurs
6	74.5	27.3	141	2 B29632	cystatin S precurs
7	73.5	26.9	140	2 A36163	cystatin C precurs
8	73.5	26.9	142	2 A47142	cystatin D precurs
9	73.5	26.9	146	1 UDHU	cystatin C precurs
10	67.5	24.7	141	1 UDHP2	cystatin SN precurs
11	63	23.1	111	2 A28793	cystatin - buff ad
12	61.5	22.5	112	1 UDBO	cystatin - bovine
13	59.5	21.8	434	1 KGBOL2	kininogen, LMW II
14	59.5	21.8	436	1 KGBOL1	kininogen, LMW I
15	59.5	21.8	619	1 KGBOL2	kininogen, HMW II
16	59.5	21.8	621	1 KGBOL1	kininogen, HMW I
17	57	20.9	455	2 T15622	hypothetical prote
18	56.5	20.7	324	2 T1379	probable phosphati
19	56.5	20.7	427	1 KGHU1	kininogen, LMW pre
20	56.5	20.7	644	1 KGHU1	kininogen, LMW pre
21	56	20.5	111	1 JC2040	cystatin - chum sa
22	56	20.5	302	2 B96520	hypothetical prote
23	56	20.5	367	2 B75384	conserved hypobet
24	56	20.5	426	2 A40440	endothelin 1 and 2
25	56	20.5	427	2 A44158	endothelin recepto
26	56	20.5	427	2 S13424	genome polypolypein
27	56	20.5	3411	1 GNMVY	genome polypolypein
28	56	20.5	3411	1 GNMVY	genome polypolypein
29	55	20.1	141	2 J01470	cystatin S precurs

30	55	20.1	174	1 TVVPA4	small T antigen -
31	55	20.1	218	2 A34445	25K calcium-bindin
32	55	20.1	295	2 C43718	hypothetical prote
33	55	20.1	560	2 S27387	interferon alpha r
34	54.5	20.0	243	1 J0Q0021	ubiquitinol-cytochro
35	54	19.8	317	2 S05356	hypothetical prote
36	54	19.8	415	2 S34140	DNA-binding protei
37	54	19.8	415	2 S37690	hypothetical prote
38	54	19.8	453	2 E86464	hypothetical prote
39	54	19.8	620	2 T23522	hypothetical prote
40	53	19.4	415	2 A54126	endothelin recepto
41	53	19.4	530	2 G71157	hypothetical prote
42	53	19.4	695	2 D84634	hypothetical prote
43	53	19.4	711	1 TFHUL	lactotransferrin p
44	53	19.4	3396	1 A42551	genome polypolypein
45	53	19.4	4540	2 T30838	cytoplasmic dynein

ALIGNMENTS

RESULT 1

A45361
cystatin-related epididymal specific protein - mouse (fragment)

C:Species: Mus musculus (house mouse)

C>Date: 10-Jun-1993 #sequence_revision 18-Nov-1994 #text_change 05-Nov-1999

C/Accession: A45361

R/Cornwall, G.A.; Orgebin-Crist, M.C.; Hann, S.R.

Mol. Endocrinol. 6, 1653-1664, 1992

A/Title: The CRIS gene: a unique testis-regulated gene related to the cystatin family is

A/Reference number: A45361; MUID:93078799; PMID:1280328

A/Accession: A45361

A/Status: preliminary; not compared with conceptual translation

A/Molecule type: nucleic acid

A/Residues: 1-139 <COR>

A/Cross-references: GB:849926; NID:g260492; PIDN:AA35390.1; PID:g260493

A/Note: sequence extracted from NCBI backbone (NCBIP:118813)

C/Superfamily: cystatin; cystatin homology

F:28-139/Domain: cystatin homology <CTS>

Query Match 39.4%; Score 107.5; DB 2; Length 139;
Best Local Similarity 39.2%; Pred. No. 2.4e-06;
Matches 20; Conservative 16; Mismatches 12; Indels 3; Gaps 2;

Qy 1 NVEMQMTTCCKP--ETTCVPOER-ELKOVNCFPSVPAVPMFQYKILNK 48
Db 84 DVOISRSNCKKPLNNTENCIPKKPELEKRWSCSFLVGLPVMNGEFLTLK 134

RESULT 2

UDCH
cystatin precursor - chicken

N/Alternate names: cystatin 1; cysteine proteinase inhibitor; egg-white cystatin

C/Species: Gallus gallus (chicken)

C/Date: 03-Aug-1984 #sequence_revision 12-Apr-1996 #text_change 29-Oct-1999

C/Accession: A34456; A01274; S01461; S48159; S04008; JN0789

R/Coella, R.; Sakaguchi, Y.; Nagase, H.; Bird, J.W.C.

J. Biol. Chem. 264, 17164-17169, 1989

A/Title: Chicken egg white cystatin. Molecular cloning, nucleotide sequence, and tissue c

A/Reference number: A34456; MUID:90008873; PMID:2793849

A/Accession: A34456

A/Molecule type: mRNA

A/Residues: 1-139 <COL>

A/Cross-references: GB:050577; NID:g211714; PIDN:AAA48744.1; PID:g211715

R/Schwabe, C.; Anastasi, A.; Crow, H.; McDonald, J.K.; Barrett, A.J.

Biochem. J. 217, 813-817, 1984

A/Title: Cystatin. Amino acid sequence and possible secondary structure.

A/Reference number: A01274; MUID:84178305; PMID:6712557

A/Accession: A01274

A/Molecule type: protein

A/Residues: 24-139 <SCH>

R/Turk, V.; Brzin, J.; Longer, M.; Ritonja, A.; Bropklin, M.; Borchart, U.; Machleidt, W.
Hoppe-Seyler's Z. Physiol. Chem. 364, 1487-1496, 1983

A/Title: Protein inhibitors of cysteine proteinases. III. Amino-acid sequence of cystatin
 A/Reference number: S01461; MUID:84110059; PMID:6662498
 A/Accession: S01461
 A/Molecule type: protein
 A/Residues: 24-139 <TR>
 R/Anastasi, A.; Brown, M.A.; Kambhavi, A.A.; Nicklin, M.J.H.; Sayers, C.A.; Sunter, D.C.;
 Biochem. J. 211, 129-138, 1983
 A/Title: Cystatin, a protein inhibitor of cysteine proteinases. Improved purification fr
 A/Reference number: A37514; MUID:83256421; PMID:6409085
 A/Contents: annotation; characterization of protein
 R/Grubb, A.; Lofberg, H.; Barrett, A.J.
 FEBS Lett. 170, 370-374, 1984
 A/Title: The disulphide bridges of human cystatin C (gamma-trace) and chicken cystatin.
 A/Reference number: S01462
 A/Accession: S48159
 A/Contents: annotation; disulfide bonds
 R/Averwald, E.A.; Neagler, D.K.; Schulze, A.J.; Engh, R.A.; Genenger, G.; Machleidt, W.
 Eur. J. Biochem. 224, 407-415, 1994
 A/Title: Production, inhibitory activity, folding and conformational analysis of an N-te
 A/Reference number: S48159; MUID:95010016; PMID:7925354
 A/Accession: S48159
 A/Status: preliminary
 A/Molecule type: protein
 A/Residues: 24-139 <NR>
 R/Laber, B.; Krieglstein, K.; Henschen, A.; Kos, J.; Turk, V.; Huber, R.; Bode, W.
 FEBS Lett. 248, 162-168, 1989
 A/Title: The cysteine proteinase inhibitor chicken cystatin is a phosphoprotein.
 A/Reference number: S04008; MUID:89252033; PMID:2721673
 A/Accession: S04008
 A/Molecule type: protein
 A/Residues: 97-114 <LMB>
 R/Colella, R.; Bird, J.W.C.
 Gene 130, 175-181, 1993
 A/Title: Isolation and characterization of the chicken cystatin-encoding gene: Mapping t
 A/Reference number: JN0789; MUID:93366172; PMID:8359684
 A/Accession: JN0789
 A/Molecule type: DNA
 A/Residues: 1-139 <CO2>
 A/Cross-references: GB:M95725
 A/Note: authors failed to translate the codon for residue 115-Tyr
 C/Comment: This protein binds tightly to and inhibits a variety of cysteine proteinases
 C/Genetics:
 A/Gene: Csn
 A/Intons: 76/3; 114/3
 C/Superfamily: cystatin; cystatin homology
 C/Keywords: cysteine proteinase inhibitor; egg white; phosphoprotein
 F:1-23/Domain: signal sequence #status predicted <SIG>
 F:24-139/Product: cystatin, long form #status experimental <CTLF>
 F:30-139/Domain: cystatin homology <CYS>
 F:32-139/Product: cystatin, short form #status experimental <CYSP>
 F:76-80/Region: inhibitory #status predicted
 F:94-104,118-138/Disulfide bonds: #status experimental
 F:103/Binding site: phosphate (Ser) (covalent) (partial) #status experimental

Query Match 29.1%; Score 79.5; DB 1; Length 139;
 Best Local Similarity 37.5%; Pred. No. 0.0082;
 Matches 18; Conservative 8; Mismatches 19; Indels 3; Gaps 2;

Qy 2 VEMQWTTCKQKPT--ETINC-VPOERELHKQVNCFFSVFAVPMFEQYKIL 46
 Db 87 VEIGRTTCPSKSSGDLQSCFHDPEPMAYTCTFVVSIPWLNQIKLL 134

RESULT 3
 S10587
 Cystatin C - rat
 C/Species: Rattus sp. (rat)
 C/Date: 21-Nov-1993 #sequence_revision 03-Nov-1995 #text_change 16-Jul-1999
 C/Accession: S10587
 R/Ennard, F.; Ennard, A.; Faucher, D.; Capony, J.P.; Derancourt, J.; Brillard, M.; Gauth
 Biochem. Chem. Hoppe-Seyler 371(Suppl.), 161-166, 1990
 A/Title: Rat cystatin C: the complete amino acid sequence reveals a site for N-glycosyla
 A/Reference number: S10587; MUID:90380276; PMID:2400577
 A/Accession: S10587

A/Status: preliminary
 A/Molecule type: protein
 A/Residues: 1-120 <ESN>
 A/Note: 43-Asn was also found
 A/Note: the sequence from Fig. 2 is inconsistent with that from Fig. 1 in having 18-Ala
 C/Superfamily: cystatin; cystatin homology
 F:9-120/Domain: cystatin homology <CYS>

Query Match 28.8%; Score 78.5; DB 2; Length 120;
 Best Local Similarity 40.5%; Pred. No. 0.0095;
 Matches 17; Conservative 8; Mismatches 14; Indels 3; Gaps 2;

Qy 1 NVEMQWTTCKQKPT--TNC-VPOERELHKQVNCFFSVFAVPM 39
 Db 65 DVEMGRITTCRSQTNLNCFFHDQPHLMRKALCSFQIYSVPM 106

RESULT 4
 S07085
 Cystatin C precursor - rat (fragment)
 C/Species: Rattus norvegicus (Norway rat)
 C/Date: 01-Dec-1993 #sequence_revision 03-Aug-1995 #text_change 16-Jul-1999
 C/Accession: S07085; S01337; S21109
 R/Cole, T.; Dickson, P.W.; Ennard, F.; Averill, S.; Risbridger, G.P.; Gauthier, F.; Schre
 Eur. J. Biochem. 186, 35-42, 1989
 A/Title: The cDNA structure and expression analysis of the genes for the cysteine protei
 A/Reference number: S07085; MUID:90092122; PMID:2689174
 A/Accession: S07085
 A/Status: preliminary
 A/Molecule type: mRNA
 A/Residues: 1-127 <COL>
 A/Cross-references: EMBL:X16957; NID:956041; PIDN:CA34831.1; PID:9736290
 R/Ennard, A.; Ennard, F.; Faucher, D.; Gauthier, F.
 FEBS Lett. 236, 475-478, 1988
 A/Title: Two rat homologues of human cystatin C
 A/Reference number: S01337; MUID:88313020; PMID:3044831
 A/Accession: S01337
 A/Molecule type: protein
 A/Residues: 8-49 <ESN>
 R/Ennard, A.; Ennard, F.; Guillon, F.; Gauthier, F.
 FEBS Lett. 300, 131-135, 1992
 A/Title: Production of the cysteine proteinase inhibitor cystatin C by rat Sertoli cells
 A/Reference number: S21109; MUID:92252121; PMID:1563513
 A/Accession: S21109
 A/Molecule type: protein
 A/Residues: 8, 'XX', 11-20 <ES2>
 C/Superfamily: cystatin; cystatin homology
 C/Keywords: cysteine proteinase inhibitor
 F:16-127/Domain: cystatin homology <CYS>
 F:80-90,104-124/Disulfide bonds: #status predicted

Query Match 28.8%; Score 78.5; DB 2; Length 127;
 Best Local Similarity 40.5%; Pred. No. 0.01; Indels 3; Gaps 2;
 Matches 17; Conservative 8; Mismatches 14; Indels 3; Gaps 2;

Qy 1 NVEMQWTTCKQKPT--TNC-VPOERELHKQVNCFFSVFAVPM 39
 Db 72 DVEMGRITTCRSQTNLNCFFHDQPHLMRKALCSFQIYSVPM 113

RESULT 5
 UDHUPL
 Cystatin S precursor - human
 N/Alternate names: cystatin SA-III; salivary acidic protein-1
 C/Species: Homo sapiens (man)
 C/Date: 25-Feb-1985 #sequence_revision 08-Feb-1996 #text_change 16-Jul-1999
 C/Accession: S17667; S16500; A01272; A29603; S19280; A56608
 R/Bohek, L.A.; Aguirre, A.; Levine, M.J.
 Biochem. J. 278, 627-635, 1991
 A/Title: Human salivary cystatin S. Cloning, sequence analysis, hybridization in situ and
 A/Reference number: S17667; MUID:91378918; PMID:1898352
 A/Accession: S17667
 A/Molecule type: mRNA

A:Residues: 1-141 <BO3>
 A:Cross-references: EMBL:X54667; NID:930365; PION:CA38478.1; PID:930366
 R:Leamkin, M.S.; Jensen, J.L.; Setayesh, M.R.; Troxler, R.F.; Oppenheim, F.G.
 Arch. Biochem. Biophys. 288, 664-670, 1991
 A:Title: Salivary cystatin SA-II, a potential precursor of the acquired enamel pellicle
 A:Reference number: S16500; MUID:91378515; PMID:1898055
 A:Accession: S16500
 A:Status: preliminary
 A:Molecule type: protein
 A:Residues: 21-134, 'D', 136-141 <HU>
 R:Isemura, S.; Saitoh, E.; Sanada, K.
 J. Biochem. 96, 489-498, 1984
 A:Title: Isolation and amino acid sequence of SP-1, an acidic protein of human whole salivary gland
 A:Reference number: A91985; MUID:85054716; PMID:6501254
 A:Accession: A01272
 A:Molecule type: protein
 A:Residues: 29-134, 'D', 136-141 <ISB>
 R:Isemura, S.; Saitoh, E.; Ito, S.; Isemura, M.; Sanada, K.
 J. Biochem. 96, 1311-1314, 1984
 A:Title: Cystatin S: a cysteine proteinase inhibitor of human saliva.
 A:Reference number: A91981; MUID:85104877; PMID:6394600
 A:Contents: annotation; inhibitor specificity
 R:Haake, D.H.; Yuan, P.M.; Wilson, K.J.; Hunkapiller, M.W.
 Biochem. Biophys. Res. Commun. 145, 1248-1253, 1987
 A:Title: Identification of a long form of cystatin from human saliva by rapid microbore
 A:Reference number: A29603; MUID:87270697; PMID:3496880
 A:Accession: A29603
 A:Molecule type: protein
 A:Residues: 21-51 <HAW>
 R:Ramashub, N.; Reddy, M.S.; Bergsy, E.J.; Harszthy, G.G.; Soti, S.D.; Levine, M.J.
 Biochem. J. 280, 341-352, 1991
 A:Title: Large-scale purification and characterization of the major phosphoproteins and
 A:Reference number: S19279; MUID:92082469; PMID:1747107
 A:Accession: S19280
 A:Status: preliminary
 A:Molecule type: protein
 A:Residues: 21-55 <RAM>
 R:Johnson, M.; Richardson, C.F.; Bergsy, E.J.; Levine, M.J.; Nancollas, G.H.
 Arch. Oral Biol. 36, 631-636, 1991
 A:Title: The effects of human salivary cystatins and statherin on hydroxyapatite crystals
 A:Reference number: A56608; MUID:92074898; PMID:1741693
 A:Accession: A56608
 A:Molecule type: protein
 A:Residues: 21-36 <JOH>
 A:Note: sequence extracted from NCBI backbone (NCBIP:67866)
 A:Note: authors designate form without phosphate as cystatin S and form containing one phosphate as cystatin S1
 A:Comment: This protein strongly inhibits pepsin and ficin, partially inhibits stem bromelain competitively.
 A:Genetics:
 A:Gene: GDB:CS74
 A:Cross-references: GDB:136381
 A:Map position: 20p11.2-20p11.2
 C:Superfamily: cystatin; cystatin homology
 C:Keywords: cysteine proteinase inhibitor; phosphoprotein; saliva
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:21-141/Product: cystatin S #status predicted <MAT>
 F:30-141/Domain: cystatin homology <CYS>
 F:76-80/Region: inhibitory #status predicted
 F:94-104, 118-138/Disulfide bonds: #status predicted
 Query Match 27.7%; Score 75.5; DB 1; Length 141;
 Best Local Similarity 34.0%; Pred. No. 0.027;
 Matches 17; Conservative 10; Mismatches 20; Indels 3; Gaps 2;
 Cy 1 NVEQMWTTCCK--PETNCGVQER-ELHKVNCSPSVAVPWPQYKILN 47
 Db 86 DVEGRTCTKSGPFLDTCAFHQPELQKOLCSPEIYEVWEDRMSLVN 135
 RESULT 6
 B29632
 cystatin SA precursor - human
 !Species: Homo sapiens (man)

C>Date: 31-Mar-1989 #sequence revision 30-Jun-1989 #ext_change 16-Jul-1999
C:Accession: B29632; S02490; A41422; B27015
R:Saitoh, E.; Kim, H.S.; Smithies, O.; Maeda, N.
A>Title: Human cysteine-proteinase inhibitors: nucleotide sequence analysis of three memt
Gene 61, 323-338, 1987
A:Reference number: A91589; MUID:88185836; PMID:3446578
A:Accession: B29632
A:Molecule type: DNA
A:Residues: 1-141 <SAI>
A:Cross-references: GB:M19673; GB:M19170; NID:g186403; PIDN:AAA36116.1; PID:g386626
A>Note: the authors translated the codon GAC for residue 129 as Asn
R:Saitoh, E.; Isemura, S.; Sanada, K.; Kim, H.S.; Smithies, O.; Maeda, N.
Biol. Chem. Hoppe-Seyler 369, 191-197, 1988
A>Title: Cystatin superfamily. Evidence that family II cystatin genes are evolutionarily
A:Reference number: S02489; MUID:89076505; PMID:3202364
A:Accession: S02490
A>Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 21-141 <SA2>
R:Isemura, S.; Saitoh, E.; Sanada, K.
J. Biochem. 102, 693-704, 1987
A>Title: Characterization and amino acid sequence of a new acidic cysteine proteinase int
A:Reference number: A41422; MUID:88139220; PMID:3436950
A:Accession: A41422
A:Molecule type: protein
A:Residues: 25-141 <ISB>
R:Isemura, S.; Saitoh, E.; Sanada, K.; Ito, S.
In Cysteine Proteinases and Their Inhibitors, Turk, V., ed., pp.497-505, Walter de Gruyter
A>Title: Cystatin S and the related cysteine proteinase inhibitors in human saliva.
A:Reference number: A27015
A:Accession: B27015
A:Molecule type: protein
A:Residues: 25-134,'D','136-141 <IS2>
C:Genetics:
A:Gene: GDB:CST2
A:Cross-references: GDB:119816; OMIM:123856
A:Map position: 20p11.2-20p11.2
C:Superfamily: cystatin; cystatin homology
F:j30-141/Domain: cystatin homology <CYS>

Query Match 27.3% Score 74.5; DB 2; Length 141;
Best Local Similarity 32.0%; Pred. No. 0.036;
Matches 16; Conservative 11; Mismatches 20; Indels 3; Gaps 2;

OY 1 NVEMQWTTCK--PRTTNCVPOER-ELHKQVCFSEVFAPVPEQYKILN 47
 ::::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 86 DIEVGRTICTKSQPNLDTCAFHQPELQKKQCSFGIYEVPEDRMRLSVN 135

RESULT 7
A36163
cystatin C precursor - mouse
C:Species: Mus musculus (house mouse)
C>Date: 14-Dec-1990 #sequence revision 14-Dec-1990 #ext_change 16-Jul-1999
C:Accession: A36163
R:Solom, M.; Rawson, C.; Lindburg, K.; Barnes, D.
Biochem. Biophys. Res. Commun. 172, 945-951, 1990
A>Title: Transforming growth factor beta regulates cystatin C in serum-free mouse embryo
A:Reference number: A36163; MUID:91054522; PMID:2241583
A:Accession: A36163
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-140 <SOI>
A:Cross-references: EMBL:M59470; NID:g192911; PIDN:AAA63298.1; PID:g192912
C:Superfamily: cystatin; cystatin homology
F:j29-140/Domain: cystatin homology <CYS>
F:j93-103,117-137/Disulfide Bonds: #status predicted

Query Match 26.9% Score 73.5; DB 2; Length 140;
Best Local Similarity 38.1%; Pred. No. 0.047;
Matches 16; Conservative 9; Mismatches 14; Indels 3; Gaps 2;

1 NVEMQWTTCKRPET--TNC-VFOEBELHKQVNCPSVPAVPW 39

A>Title: The disulphide bridges of human cystatin C (gamma-trace) and chicken cystatin.
A/Reference number: S01462
A/Contents: annotation; disulfide bonds
R/Berti, P.J.; Storer, A.C.
Biochem. J. 302, 411-416, 1994
A>Title: Local pH-dependent conformational changes leading to proteolytic susceptibility.
A/Reference number: S55305; MUID:94379969; PMID:8092991
A/Accession: S55305
A>Status: preliminary
A/Molecule type: protein
A/Residues: 27-49;106-146 <BER>
C/Comment: This protein is found in the post-gamma-globulin fraction of cerebrospinal fluid patients with certain autoimmune diseases.
C/Comment: This protein is an inhibitor of cysteine proteinases and may serve as an important C/Genetic: A mutant cystatin C, with 94-Gln, is deposited in hereditary cerebral hemorrhage C/Genetics:
A/Gene: GDB:CST3
A/Cross-references: GDB:119817; OMIM:105150
A/Map position: 20p11.2-20p11.2
A/Intons: 81/3; 119/3
C/Superfamily: cystatin; cystatin homology
C/Keywords: amyloid; cysteine proteinase inhibitor; extracellular protein; hydroxyprolin F/1-26/Domain: signal sequence #status predicted <SIG>
F/27-146/Product: cystatin C #status experimental <MAT>
F/35-146/Domain: cystatin homology <CYS>
F/81-85/Region: inhibitory #status predicted
F/92/Modified site: hydroxyproline (Pro) (partial) #status experimental
F/99-109,123-143/Disulfide bonds: #status experimental

Query Match 26.9%; Score 73.5; DB 1; Length 146;
Best Local Similarity 38.1%; Pred. No. 0.049;
Matches 16; Conservative 7; Mismatches 16; Indels 3; Gaps 2;

Oy 1 NVEMQWTTCK--PETTNC--VPOERELHKQVCFPSVFAVPM 39
Db 91 DVEIGRTCTKTPQNLNCPFHDPHKKRKAFCFQIYAVPM 132

RESULT 10

UDHUP2
cystatin SN precursor (validated) - human
N/Alternate names: cystatin SA-I
C/Species: Homo sapiens (man)
C/Date: 28-May-1986 #sequence_revision 08-Feb-1996 #text_change 08-Dec-2000
C/Accession: A28110; S02489; A29632; A01273; S19279
R/Al-Hashimi, I.; Dickinson, D.P.; Levine, M.J.
J. Biol. Chem. 263, 9381-9387, 1988
A>Title: Purification, molecular cloning, and sequencing of salivary cystatin SA-I.
A/Reference number: A28110; MUID:88243825; PMID:2837486
A/Accession: A28110
A/Molecule type: mRNA
A/Residues: 1-141 <ALH>
A/Cross-references: GB:Q03870; NID:9337751; PIDN:AAA6029.1; PID:9337752
R/Saitoh, E.; Isemura, S.; Sanada, K.; Kim, H.S.; Smithies, O.; Maeda, N.
Biol. Chem. Hoppe-Seyler 369, 191-197, 1988
A>Title: Cystatin superfamily. Evidence that family II cystatin genes are evolutionarily A/Reference number: S02489; MUID:89076505; PMID:3202964
A/Accession: S02489
A/Status: not compared with conceptual translation
A/Molecule type: DNA
A/Residues: 21-141 <SA2>
R/Saitoh, E.; Kim, H.S.; Smithies, O.; Maeda, N.
Gene 61, 329-338, 1987
A>Title: Human cysteine-proteinase inhibitors: nucleotide sequence analysis of three men A/Reference number: A91589; MUID:88185836; PMID:3446578
A/Accession: A29632
A/Molecule type: DNA
A/Residues: 1-86, 'I', 88-141 <SA1>
R/Isemura, S.; Saitoh, E.; Sanada, K.
FEBS Lett. 198, 145-149, 1986
A>Title: Characterization of a new cysteine proteinase inhibitor of human saliva, cystat A/Reference number: A01273; MUID:86164938; PMID:3514272
A/Accession: A01273

A/Molecule type: protein
A/Residues: 29-141 <ISE>
R/Ramasubbu, N.; Reddy, M.S.; Bergey, E.J.; Harsztch, G.G.; Soni, S.D.; Levine, M.J.
Biochem. J. 280, 341-352, 1991
A>Title: Large-scale purification and characterization of the major phosphoproteins and A/Reference number: S19279; MUID:92082469; PMID:1747107
A/Accession: S19279
A/Status: preliminary
A/Molecule type: protein
A/Residues: 21-55 <RAM>
C/Comment: Human saliva appears to contain several cysteine proteinase inhibitors that A/ence: Cystatin SN, with a pI of 7.5, is a much better inhibitor of papain and dipeptidyl C/Genetics:
A/Gene: GDB:CST1
A/Cross-references: GDB:119815; OMIM:123855
A/Map position: 20p11.2-20p11.2
C/Superfamily: cystatin; cystatin homology
C/Keywords: cysteine proteinase inhibitor; extracellular protein; saliva
F/1-20/Domain: signal sequence #status predicted <SIG>
F/21-141/Product: cystatin SN #status experimental <MAT2>
F/29-141/Product: cystatin SN #status experimental <MAT2>
F/30-141/Domain: cystatin homology <CYS>
F/76-80/Region: inhibitory #status predicted
F/94-104,118-138/Disulfide bonds: #status predicted

Query Match 24.7%; Score 67.5; DB 1; Length 141;
Best Local Similarity 38.1%; Pred. No. 0.27;
Matches 16; Conservative 6; Mismatches 17; Indels 3; Gaps 2;

Oy 1 NVEMQWTTCK--PETTNCVPOER--ELHKQVCFPSVFAVPM 39
Db 86 DVEIGRTCTKSGPNLDTCAFHQPHLQKQLCSFEIYRPM 127

RESULT 11

A28793
cystatin - puff adder
C/Species: Bitis arietans (puff adder)
C/Date: 15-Dec-1988 #sequence_revision 15-Dec-1988 #text_change 30-Sep-1993
C/Accession: A28793
R/Ritonga, A.; Evans, H.J.; Machleidt, W.; Barrett, A.J.
Biochem. J. 246, 799-802, 1987
A>Title: Amino acid sequence of a cystatin from venom of the African puff adder (Bitis a A/Reference number: A28793; MUID:88076861; PMID:3500714
A/Accession: A28793
A/Molecule type: Protein
A/Residues: 1-111 <RT>
C/Superfamily: cystatin; cystatin homology

Query Match 23.1%; Score 63; DB 2; Length 111;
Best Local Similarity 31.9%; Pred. No. 0.81;
Matches 15; Conservative 10; Mismatches 12; Indels 10; Gaps 3;

Oy 2 VEMQWTTCK-----PETTNC--VPOERELHKQVCFPSVFAVPM 39
Db 58 MELKTTCTKTVGRPKCYQEIQNCNLPENQ--QEIICRFVMSRPM 103

RESULT 12

UDBO
cystatin - bovine
N/Alternate names: thiol proteinase inhibitor
C/Species: Bos primigenius tauros (cattle)
C/Date: 28-Feb-1986 #sequence_revision 28-Feb-1986 #text_change 06-Dec-1996
C/Accession: A01271
R/Hirado, M.; Tsunawake, S.; Sakiyama, F.; Niinobe, M.; Fujii, S.
FEBS Lett. 186, 41-45, 1985
A>Title: Complete amino acid sequence of bovine colostrum low-M-r cysteine proteinase int A/Reference number: A01271; MUID:85231205; PMID:3891407
A/Accession: A01271
A/Molecule type: Protein
A/Residues: 1-112 <HR>
C/Superfamily: cystatin; cystatin homology

C/Keywords: colostrum; cysteine proteinase inhibitor
 F:2-112/Domain: cystatin homology <CYS>
 F:48-52/Region: inhibitory #status predicted
 F:66-76,90-110/Disulfide bonds: #status predicted

Query Match 22.5%; Score 61.5; DB 1; Length 112;
 Best Local Similarity 28.6%; Pred. No. 1.3;
 Matches 14; Conservative 10; Mismatches 22; Indels 3; Gaps 2;

QY 1 NVMQWTTCKRPET--NC-VPOREHLKQVNCFSYFAVPMFEQYKIL 46
 DB 58 DVELGRITTKSQANLDSCPFHNPFLKREKLCFQYVVPMMNTINLV 106

RESULT 13

KGBOL2

kininogen, LMW II precursor - bovine
 N/Alternate names: alpha-2-thiol proteinase inhibitor; preprokininogen
 N/Contains: bradykinin (kallidin); kininogen I; kininogen II; prokininogen
 C/Species: Bos primigenius taurus (cattle)
 C/Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_change 28-May-1999
 C/Accession: A01284
 R/Nawa, H.; Kitamura, N.; Hirose, T.; Asai, M.; Inayama, S.; Nakanishi, S.
 Proc. Natl. Acad. Sci. U.S.A. 80, 90-94, 1983
 A/Title: Primary structures of bovine liver low molecular weight kininogen precursors at
 A/Reference number: A93984; MUID:83117859; PMID:6572010
 A/Accession: A01284
 A/Molecule type: mRNA
 A/Residues: 1-434 <N>

A/Cross-references: GB:V00427; GB:J00011; NID:9489; PIDN:CAA23710.1; PID:9490
 C/Comment: The LMW kininogen precursor is produced from the same gene as the HMW form as
 C/Comment: Kininogen is a cysteine proteinase inhibitor, takes part in initiation of the
 C/Comment: Bradykinin, released from kininogen by kallikrein, is a potent vasodilator, &
 xyproline residue is present in the kininogen prior to the release of bradykinin.
 C/Superfamily: kininogen; cystatin homology
 C/Keywords: alternative splicing; blood coagulation; cysteine proteinase inhibitor; glycy

F:1-18/Domain: signal sequence #status predicted <SIG>
 F:19-434/Product: LMW kininogen II #status predicted <MAT>
 F:19-377/Product: LMW kininogen II heavy chain #status predicted <HCH>
 F:19-130/Domain: cystatin homology <CY1>
 F:141-252/Domain: cystatin homology <CY2>
 F:261-372/Domain: cystatin homology <CY3>
 F:377-386/Product: lysyl-bradykinin (kallidin II) #status predicted <KBDY>
 F:378-386/Product: bradykinin (kallidin I) #status predicted <BDY>
 F:387-434/Product: LMW kininogen I light chain #status experimental <LCH>
 F:19/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predicted
 F:27-404,82-93,106-125,141-144,205-217,228-247,261-264,325-337,348-367/Disulfide bonds:
 F:47,87,168,169,197,204,280/Binding site: carbonyl (Asn) (covalent) #status predicted
 F:376-377/Cleavage site: Met-Lys (kallikrein) #status predicted
 F:380/Modified site: 4-Hydroxyproline (Pro) #status predicted
 F:386-387/Cleavage site: Arg-Ser (kallikrein) #status predicted

Query Match 21.8%; Score 59.5; DB 1; Length 434;
 Best Local Similarity 36.2%; Pred. No. 8.2;
 Matches 17; Conservative 8; Mismatches 13; Indels 9; Gaps 4;

QY 7 TTCKRPE---TTNCVPOREHLKQV--NCFPSYFAVPMFEQ--YKILN 47
 DB 323 TTCKSGNEELTKSC---EINHGQILHCDANVYVPMFEKVPPTVN 366

RESULT 14

KGBOL1

kininogen, LMW I precursor - bovine
 N/Alternate names: alpha-2-thiol proteinase inhibitor; preprokininogen
 N/Contains: bradykinin (kallidin); kininogen I; kininogen II; prokininogen
 C/Species: Bos primigenius taurus (cattle)
 C/Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_change 22-Jun-1999
 C/Accession: A01283
 R/Nawa, H.; Kitamura, N.; Hirose, T.; Asai, M.; Inayama, S.; Nakanishi, S.
 Proc. Natl. Acad. Sci. U.S.A. 80, 90-94, 1983
 A/Title: Primary structures of bovine liver low molecular weight kininogen precursors at
 A/Reference number: A93984; MUID:83117859; PMID:6572010

A/Accession: A01283
 A/Molecule type: mRNA
 A/Residues: 1-436 <N>
 A/Cross-references: GB:J00010; GB:V00426; NID:9163256; PIDN:AAA10604.1; PID:9163257
 C/Comment: The LMW kininogen precursor is produced from the same gene as the HMW form as
 C/Comment: Kininogen is a cysteine proteinase inhibitor, takes part in initiation of the
 C/Comment: Bradykinin, released from kininogen by kallikrein, is a potent vasodilator, &
 xyproline residue is present in the kininogen prior to the release of bradykinin.
 C/Superfamily: kininogen; cystatin homology
 C/Keywords: alternative splicing; blood coagulation; cysteine proteinase inhibitor; glycy

F:1-18/Domain: signal sequence #status predicted <SIG>
 F:19-436/Product: LMW kininogen I #status predicted <MAT>
 F:19-378/Product: LMW kininogen I heavy chain #status predicted <HCH>
 F:19-130/Domain: cystatin homology <CY1>
 F:141-252/Domain: cystatin homology <CY2>
 F:263-374/Domain: cystatin homology <CY3>

F:379-388/Product: lysyl-bradykinin (kallidin II) #status predicted <KBDY>
 F:380-388/Product: bradykinin (kallidin I) #status predicted <BDY>
 F:389-436/Product: LMW kininogen I light chain #status experimental <LCH>
 F:19/Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status predicted
 F:27-406,82-93,106-125,141-144,205-217,228-247,263-266,327-339,350-369/Disulfide bonds:
 F:47,87,168,169,197,204/Binding site: carbonyl (Asn) (covalent) #status predicted
 F:378-379/Cleavage site: Met-Lys (kallikrein) #status predicted
 F:382/Modified site: 4-Hydroxyproline (Pro) #status predicted
 F:388-389/Cleavage site: Arg-Ser (kallikrein) #status predicted

Query Match 21.8%; Score 59.5; DB 1; Length 436;
 Best Local Similarity 36.2%; Pred. No. 8.2;
 Matches 17; Conservative 8; Mismatches 13; Indels 9; Gaps 4;

QY 7 TTCKRPE---TTNCVPOREHLKQV--NCFPSYFAVPMFEQ--YKILN 47
 DB 325 TTCKSGNEELTKSC---EINHGQILHCDANVYVPMFEKVPPTVN 368

RESULT 15

KGBOL2

kininogen, HMW II precursor - bovine
 N/Alternate names: alpha-2-thiol proteinase inhibitor; preprokininogen
 N/Contains: bradykinin (kallidin); kininogen I; kininogen II; prokininogen
 C/Species: Bos primigenius taurus (cattle)
 C/Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_change 22-Jun-1999
 C/Accession: A01282; A91923; A91941; A91938; B29559
 R/Kitamura, N.; Takegaki, Y.; Furuto, S.; Tanaka, T.; Nawa, H.; Nakanishi, S.
 Nature 305, 545-549, 1983
 A/Title: A single gene for bovine high molecular weight and low molecular weight kininoge

A/Reference number: A93317; MUID:84014106; PMID:6571659
 A/Accession: A01282
 A/Molecule type: mRNA
 A/Residues: 1-619 <KIT>
 A/Cross-references: GB:V01492; GB:K01758; NID:9493; PIDN:CAA24736.1; PID:9494
 R/Kato, H.; Nagasawa, S.; Suzuki, T.

U. Biochem. 67, 313-323, 1970

A/Title: Studies on the structure of bovine kininogen: cleavages of disulfide bonds and c

A/Reference number: A91923; MUID:70180420; PMID:4986212

A/Accession: A91923

A/Molecule type: protein

A/Residues: 376-391 <KAT>
 R/Han, Y.N.; Kato, H.; Iwanaga, S.; Suzuki, T.

U. Biochem. 79, 1201-1222, 1976

A/Title: Primary structure of bovine plasma high-molecular-weight kininogen. The amino ac

A/Reference number: A91941; MUID:76260155; PMID:956151

A/Accession: A91941

A/Molecule type: protein

A/Residues: 387-455 <HAN>
 A/Note: 398-Pro, 401-Val, and 455-Lys were also found

R/Han, Y.N.; Komiyama, M.; Iwanaga, S.; Suzuki, T.

J. Biochem. 77, 55-68, 1975

A/Title: Studies on the primary structure of bovine high-molecular-weight kininogen. Amir

A/Reference number: A91938; MUID:75170265; PMID:1169237

A/Accession: A91938

A/Molecule type: protein

A/Residues: 456-496 <HMA>

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: March 22, 2004, 17:05:08 ; Search time 5.42259 Seconds
(without alignments)
460.917 Million cell updates/sec

Title: US-09-941-314-17

Perfect score: 273

Sequence: 1 NVEMQWTTCKPRTTNCVPO.....NCFPSVPAVPMFQYKILNK 48

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database: SwissProt_42:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	273	100.0	137	CS11_HUMAN	Q9H112 homo sapien
2	155	56.8	139	CS11_MOUSE	Q9D169 mus musculu
3	107.5	39.4	142	CST8_MOUSE	P32766 mus musculu
4	100.5	36.8	142	CST8_RAT	O88968 rattus norv
5	87	31.9	165	CSTL_HUMAN	Q9H114 homo sapien
6	85.5	31.3	142	CST8_HUMAN	O60676 homo sapien
7	80.5	29.5	147	CST9_HUMAN	Q9H491 homo sapien
8	79.5	29.1	139	CYT_CHICK	P01038 gallus gall
9	78.5	28.8	116	CYT_COTTA	P01061 coturnix co
10	78.5	28.8	127	CYT_C_RAT	P14841 rattus norv
11	76.5	28.0	146	CYT_C_SALSC	O19093 salmatri bcl
12	75.5	27.7	141	CYT8_HUMAN	P01036 homo sapien
13	74.5	27.3	141	CYT8_HUMAN	P09228 homo sapien
14	74.5	27.3	148	CYT8_RABIT	O97863 corycolagus
15	73.5	26.9	140	CYT8_MOUSE	P21460 mus musculu
16	73.5	26.9	142	CYT8_HUMAN	P28328 homo sapien
17	73.5	26.9	146	CYT8_HUMAN	P01034 homo sapien
18	72.5	26.6	141	CYT8_MOUSE	O19092 macaca mula
19	67.5	24.7	141	CYT8_HUMAN	P01037 homo sapien
20	67	24.5	145	CYT8_HUMAN	P06096 homo sapien
21	64	23.4	129	CYT_CYPRA	P35481 cyprinus ca
22	63	23.1	111	CYT_BITAR	P08933 bitis arlet
23	61.5	22.5	144	CYT8_MOUSE	O89098 mus musculu
24	60	22.0	144	CYT8_MOUSE	P01047 bos taurus
25	59.5	21.8	434	KNL2_BOVIN	P01046 bos taurus
26	59.5	21.8	434	KNL1_BOVIN	P01045 bos taurus
27	59.5	21.8	619	KNH2_BOVIN	P01044 bos taurus
28	59.5	21.8	621	KNH1_BOVIN	P01043 bos taurus
29	58.5	21.4	625	TS94_HUMAN	Q92046 homo sapien
30	57.5	21.1	137	CST9_MOUSE	Q92046 mus musculu
31	57	20.9	145	YXK5_CAEEL	O18179 caenorhabdi
32	56.5	20.7	149	CYT8_HUMAN	O15828 homo sapien
33	56.5	20.7	644	KNK_HUMAN	P01042 homo sapien

34	56	20.5	426	1	ETIR_RAT	P26684 rattus norv
35	56	20.5	427	1	ETIR_BOVIN	P21450 bos taurus
36	56	20.5	427	1	ETIR_HUMAN	P25101 homo sapien
37	56	20.5	427	1	ETIR_MOUSE	O61614 mus musculu
38	56	20.5	427	1	ETIR_PIG	O29010 sus scrofa
39	56	20.5	3411	1	POLG_YERVI	P03314 y genome po
40	56	20.5	3411	1	POLG_YERF2	P19901 y genome po
41	55	20.1	141	1	CYT8_RAT	P19313 rattus norv
42	55	20.1	174	1	TASM_SVA40	P03081 simian viru
43	55	20.1	218	1	CB25_TETTH	P09226 tetrahymena
44	55	20.1	295	1	YDH2_XANAU	P22644 xanthobacte
45	55	20.1	560	1	INR1_BOVIN	O04790 bos taurus

ALIGNMENTS

RESULT 1
ID CS11_HUMAN STANDARD; PRT; 137 AA.
AC Q9H112; Q9H113;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DE Cystatin 11 precursor.
GN CST11 OR CST8L.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_Taxid=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RX MEDLINE=21638749; PubMed=11780052;
RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
RA Jones M., Scavridis G., Almeida J.P., Babbage A.K., Baggley C.L.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
RA Coulson A., Coville G.J., Deadman R., Dhadda P.D., Dunn M.,
RA Ellington A.G., Frankland J.A., Frazer A., French L., Garner P.,
RA Graffham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Leivasalho M.H., Leverisha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
RA Marsh V.L., Martin S.L., McComachie L.J., McElay K., McMurray A.A.,
RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsey H.,
RA Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Showkeen R., Sims S.,
RA Skuse C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,
RA Swann R.M., Symcote N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
RA Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M., Williams S.A.,
RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
Rogers J.;
RT "The DNA sequence and comparative analysis of human chromosome 20.";
RL Nature 414:665-671(2001).
-1- SUBCELLULAR LOCATION: Secreted (potential).
-1- ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=2;
Name=1;
IsoId=Q9H112-1; Sequence=Displayed;
Name=2;
IsoId=Q9H112-2; Sequence=VSP_001260;
Note=No experimental confirmation available;
-1- SIMILARITY: Belongs to the cystatin family.

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CC -----
DR EMBL, AL096677; CAC13170.1; -
DR EMBL, AL096677; CAC17423.1; -
DR HSSP; P01038; 1A90.
DR Genew; HGNC:15959; CST11.
DR InterPro; IPR00010; Cystatin.
DR Pfam; PF00031; Cystatin; 1.
DR SMART; SM00043; CY; 1.
DR PROSITE; PS00287; CYSTATIN; FALSE_NEG.
DR Thiol protease inhibitor; Signal; Alternative splicing.
DR SIGNAL 1 25
FT CHAIN 26 137 CYPSTATIN 11.
FT SITE 75 79 SECONDARY AREA OF CONTACT (POTENTIAL).
FT DISULFID 93 101 BY SIMILARITY.
FT CARBOHYD 114 134 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT VARSPIC 131 131 Missing (in isoform 2).
FT FTid=VSP 001260.
SQ SEQUENCE 137 AA; 16375 MM; C585C8C39A585C3B CRC64;

Query Match 100.0%; Score 273; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 4,4e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NVEOMWTTCCKEPTTNCVPOREHLKOVNCFSPFAVWPEQYILNK 48
DB 85 NVEOMWTTCCKEPTTNCVPOREHLKOVNCFSPFAVWPEQYILNK 132

RESULT 2

CS11_MOUSE STANDARD; PRT; 139 AA.

AC Q9D269;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Cystatin 11 precursor.
GN CST11.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Epididymis;
RX MEDLINE=21085660; PubMed=11217851;
RA Kawai J., Shimagawa A., Shibata K., Yoshino M., Itoh M., Iehi Y.,
RA Arakawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana K. I.,
RA Saito T., Okazaki Y., Gotohori T., Bono H., Kakuoka T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,
RA Kuehl P., Lewis S., Matsuo Y., Nakado I., Pesole G., Quackenbush J.,
RA Kuehl L.M., Straub F., Suzuki R., Tomita M., Wagner L., Maehio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Glastitch S., Hill D., Hofmann M., Hume D.A., Kamita M., Lee N.H.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyo-oka K., Wang K.H., Welter C., Whitaker C., Wilming L.,
RA Hayashizaki Y., Yoshida K., Hasegawa Y., Kawai H., Kohseki S.,
RA "Functional annotation of a full-length mouse cDNA collection.";
RT Nature 409:685-690(2001).
CC -1- SUBCELLULAR LOCATION: Secreted (Potential).
CC -1- SIMILARITY: Belongs to the cystatin family.

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CC or send an email to license@isb-sib.ch).

CC -----
DR EMBL, AK020300; BAB32061.1; -
DR HSSP; P01034; 1G96.
DR MGD; MGI:1925490; Cst11.
DR InterPro; IPR00010; Cystatin.
DR Pfam; PF00031; Cystatin; 1.
DR SMART; SM00043; CY; 1.
DR PROSITE; PS00287; CYSTATIN; FALSE_NEG.
DR Thiol protease inhibitor; Signal.
DR SIGNAL 1 28
FT CHAIN 29 139 CYPSTATIN 11.
FT SITE 76 80 SECONDARY AREA OF CONTACT (POTENTIAL).
FT DISULFID 94 102 BY SIMILARITY.
FT CARBOHYD 115 135 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT FTid=VSP 001260.
SQ SEQUENCE 139 AA; 16217 MM; F228D9815FA32640 CRC64;

Query Match 56.8%; Score 155; DB 1; Length 139;
Best Local Similarity 59.6%; Pred. No. 1,8e-13;
Matches 28; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

QY 2 VEMOMTTCCKEPTTNCVPOREHLKOVNCFSPFAVWPEQYILNK 48
DB 87 VEMOMTTCCKEPTTNCVPOREHLKOVNCFSPFAVWPEQYILNK 133

RESULT 3

CST8_MOUSE STANDARD; PRT; 142 AA.

AC P32766; O89102;
DT 01-OCT-1993 (Rel. 27, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin-related epididymal spermatozoal protein precursor (Cystatin-
DE related epididymal specific protein) (Cystatin 8).
GN CST8 OR CRES.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C3H; and CD-1;
RX MEDLINE=99247899; PubMed=10229662;
RA Cornwell G.A., Hala N., Sutton H.G.,
RA "Structure, alternative splicing and chromosomal localization of the
RA cystatin-related epididymal spermatozoal gene.";
RL Biochem. J. 340:85-93(1999).
RN [2]
RP SEQUENCE OF 4-142 FROM N.A.
RC TISSUE=Epididymis;
RX MEDLINE=93078799; PubMed=1280328;
RA Cornwell G.A., Orgebin-Crist M.-C., Hann S.R.,
RA "The CRES gene: a unique testis-regulated gene related to the cystatin
RA family is highly restricted in its expression to the proximal region
RA of the mouse epididymis.";
RL Mol. Endocrinol. 6:1653-1664(1992).
CC -1- FUNCTION: Performs a specialized role during sperm development and
CC maturation.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: Proximal caput region of the epididymis. Lower
CC expression in the testis. Within the testis it is localized to the
CC elongating spermatids, whereas within the epididymis it is
CC exclusively synthesized by the proximal caput epithelium.
CC -1- INDUCTION: Testicular factors or hormones other than androgens
CC present in the testicular fluid may be involved in the regulation

```

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CC -----
CC  DR EMBL; AF090692; AAC36317.1; -.
CC  DR HSSP; P01034; 1G96.
CC  DR InterPro; IPR000010; Cystatin.
CC  DR Pfam; PF00031; Cystatin; 1.
CC  DR SMART; SM00043; Cy; 1.
CC  KM Thiol protease inhibitor; Signal.
CC  FT SIGNAL 1 19
CC  FT CHAIN 20 142
CC  FT SITE 77 81
CC  FT DISULFD 95 105
CC  FT DISULFD 119 139
CC  FT CARBOHYD 100 100
CC  SQ SEQUENCE 142 AA; 16246 MW; F5873FPA6B6CA34 CRC64;

Query Match 36.8%; Score 100.5; DB 1; Length 142;
Best Local Similarity 37.3%; Pred. No. 2.9e-06;
Matches 19; Conservative 16; Mismatches 13; Indels 3; Gaps 2;

Qy 1 NVEQMWTTCQKPE--ETTNCVQPOER-ELHKQVNCFFSYFAVWPVQYKILNK 48
Db 87 DVQISRNCRRPLANTNCIFQKPKPKLKKLSCFLVGLALPMWNEPDLSSK 137

RESULT 5
CSTL_HUMAN
ID CSTL_HUMAN STANDARD; PRT; 165 AA.
AC OSH14.
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin-like 1 precursor.
CN CSTL.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21638749; PubMed=11780052;
RA Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,
RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
RA Beasley O.P., Bird C.P., Blakey S.B., Bridgeman A.M., Brown A.J.,
RA Buck D., Buttrill W.D., Butler A.P., Carder C., Carter N.P.,
RA Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
RA Clegg S., Cobley V.E., Collier R.E., Connor R.B., Dunn N.R.,
RA Coulson A., Coville G.J., Deedman R., Dhami P.D., Dobby M.,
RA Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,
RA Grafham D.V., Griffiths C., Griffiths M.N.D., Gilliam R., Hall R.B.,
RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle E., Hunt A.R., Hunt S.B., Jekosch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
RA Lehaeaelaho M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
RA Marsh V.L., Martin S.L., McConachie L.J., McIay K., McMurray A.A.,
RA Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsey H.,
RA Rice C.M., Ross M.T., Scott C.B., Sehra H.K., Showstken R., Sims S.,
RA Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sultson J.E.,
RA Swann R.M., Sycamore N., Taylor R., Tee L., Thomas J.M., Thorpe A.,
RA Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,
RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
RA Rogers J.;
RA RT "The DNA sequence and comparative analysis of human chromosome 20.";
RL Nature 414:865-871(2001).
CC -1- SUBCELLULAR LOCATION: Secreted (Potential).
CC -1- SIMILARITY: Belongs to the cystatin family.
CC -----

```


OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 OC NCBI_TaxID=9606;
 RN [1]
 RP MEDLINE=21638749; PubMed=11780052;
 RX MEDLINE=21638749; PubMed=11780052;
 RA Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagnulley C.L.,
 RA Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,
 RA Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
 RA Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,
 RA Chapman J.C., Clapp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
 RA Clegg S., Cobley V.E., Collier R.E., Connor R.E., Cobby N.R.,
 RA Coulson A., Coville G.J., Deadman R., Dhani P.D., Dunn M.,
 RA Ellington A.G., Frankland J.A., Frazer A., French L., Garner P.,
 RA Grafton D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
 RA Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
 RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
 RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,
 RA Levesaglio M.H., Leverisha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,
 RA Marsh V.L., Martin S.L., McComachie L.J., McElay K., McMurray A.A.,
 RA Milne S.A., Mistry D., Moore M.J.P., Mullikin J.C., Nickerson T.,
 RA Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,
 RA Phillimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,
 RA Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Showkhen R., Sims S.,
 RA Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Suleston J.E.,
 RA Svann R.M., Sycamore N., Taylor R., Tee L., Thomas D.W., Thorpe A.,
 RA Tracey A., Tromans A.C., Vaidin M., Wall M., Wallis J.M.,
 RA Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,
 RA Wilmshurst L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
 RA Rogers J.;
 RT "The DNA sequence and comparative analysis of human chromosome 20.";
 RL Nature 414:865-871(2001).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=22388257; PubMed=12477932;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.F., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Datchenko L., Marusik A., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Udén T.B., Toshiyuki S., Carninci P., Prange C.,
 RA Rana S.S., Loquiano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hultik S.W.,
 RA Vallalath D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whitting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butcherfield Y.S.N., Krzywinski M.I., Skalska U., Smalins D.E.,
 RA Schnerch A., Schein J.E., Jones S.J.M., Maria M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length
 human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 CC -1- SUBCELLULAR LOCATION: Secreted (Potential).
 CC -1- SIMILARITY: Belongs to the cystatin family.
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DR Pfam; PF00031; cystatin; 1.
 DR SMART; SM00043; CY; 1.
 KW Thiol protease inhibitor; Signal.
 FT SIGNAL 1
 FT CHAIN 29 147 POTENTIAL.
 FT DISULFID 98 108 CYSSTATIN 9-LIKE.
 FT DISULFID 122 142 BY SIMILARITY.
 FT CARBOHYD 117 117 N-LINKED (GLCNAC...) (POTENTIAL).
 FT CARBOHYD 139 139 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 147 AA; 17276 MW; 3A3286FADCA4FD6 CRC64;
 Query Match 29.5%; Score 80.5; DB 1; Length 147;
 Best Local Similarity 40.0%; Pred. No. 0.0013;
 Matches 18; Conservative 6; Mismatches 18; Indels 3; Gaps 2;
 Oy 7 TTCC--PFTTNCVPOE-RELHKVONCPFSVFAVPEQYKILNK 48
 Db 96 TRCGKFEDIDIDHCFORSTELNMTFTCFPTISFPMWTOFSLNK 140
 RESULT 8
 ID CYT CHICK STANDARD; PRT; 139 AA.
 AC P01038;
 DT 21-JUN-1986 (Rel. 01, Created)
 DT 01-OCT-1989 (Rel. 12, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Cystatin precursor (Egg-white cystatin).
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Gallus.
 OC NCBI_TaxID=9031;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=90008873; PubMed=2793849;
 RA Colella R., Sakaguchi Y., Nagase H., Bird J.W.C.;
 RT "Chicken egg white cystatin. Molecular cloning, nucleotide sequence,
 RT and tissue distribution.";
 RL J. Biol. Chem. 264:17164-17169(1989).
 RN [2]
 RP SEQUENCE OF 24-139.
 RX MEDLINE=84110059; PubMed=6712597;
 RA Schwabe C., Anastasi A., Crow H., McDonald J.K., Barrett A.J.;
 RT "Cystatin. Amino acid sequence and possible secondary structure.";
 RL Biochem. J. 217:813-817(1984).
 RN [3]
 RP SEQUENCE OF 24-139.
 RX MEDLINE=84110059; PubMed=6662498;
 RA Turk V., Brzin J., Longier M., Ritonja A., Eropkin M., Borchart U.,
 RA Machleidt W.;
 RT "Protein inhibitors of cysteine proteinases. III. Amino-acid sequence
 RT of cystatin from chicken egg white.";
 RL Hoppe-Seyler's Z. Physiol. Chem. 364:1487-1496(1983).
 RN [4]
 RP CHARACTERIZATION OF PROTEIN.
 RX MEDLINE=93256421; PubMed=6409085;
 RA Anastasi A., Brown M.A., Kemhavi A.A., Nicklin M.J.H., Sayers C.A.,
 RA Suter D.C., Barrett A.J.;
 RT "Cystatin, a protein inhibitor of cysteine proteinases. Improved
 RT purification from egg white, characterization, and detection in
 RT chicken serum.";
 RL Biochem. J. 211:129-138(1983).
 RN [5]
 RP DISULFIDE BONDS.
 RA Grubb A., Loeffberg H., Barrett A.J.;
 RT "The disulphide bridges of human cystatin C (gamma-trace) and chicken
 RT cystatin.";
 RL FEBS Lett. 170:370-374(1984).
 RN [6]
 RP PHOSPHORYLATION.
 RX MEDLINE=89252033; PubMed=2721673;
 RA Laber B., Kriegstein K., Henschen A., Kos J., Turk V., Huber R.,

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RA "Bode W.;  
RT "The cysteine proteinase inhibitor chicken cystatin is a  
RT phosphoprotein".  
RL PDBS Letc. 248:162-168(1989).  
[7]  
RN X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS).  
RP MEDLINE=89052676; PubMed=3191914;  
RX Bode W., Engh R., Musil D., Thiele U., Huber R., Karshikov A.,  
RA Birn J., Kos J., Turk V.;  
RT "The 2.0 Å X-ray crystal structure of chicken egg white cystatin and  
RT its possible mode of interaction with cysteine proteinases.";  
RL EMOJ. 7:2593-2599(1988).  
[8]  
RP STRUCTURE BY NMR.  
RX MEDLINE=94087719; PubMed=8263912;  
RA Dieckmann T., Mitschang L., Hofmann M., Kos J., Turk V.,  
RA Auerwald E.A., Jeanick R., Oeschkat H.,  
RT "The structures of native phosphorylated chicken cystatin and of a  
RT recombinant unphosphorylated variant in solution."  
RL J. Mol. Biol. 234:1048-1059(1993).  
CC -1- FUNCTION: This protein binds tightly to and inhibits a variety of  
CC thiol proteases including ficin, papain, and cathepsins B, C, H,  
CC and L. Although isolated from egg white, it is also present in  
CC serum.  
CC -1- SIMILARITY: Belongs to the cystatin family.  
-----  
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DR EMBL; J05077; AAA8744.1; -.  
DR PIR; A34456; UDCH.  
DR PDB; 1CEW; 31-JAN-94.  
DR PDB; 1A67; 27-MAY-98.  
DR PDB; 1A90; 17-JUN-98.  
DR InterPro; IPR000010; Cystatin.  
DR Pfam; PF00031; cystatin; 1.  
DR SMART; SMO0043; CY; 1.  
DR PROSITE; PS00287; CYSTATIN; 1.  
KW Thiol protease inhibitor; Phosphorylation; Signal; 3D-structure.  
FT SIGNAL. 1 23  
FT CHAIN 24 139 CYSTATIN.  
FT ACT_SITE 32 32 REACTIVE SITE.  
FT SITE 76 80 SECONDARY AREA OF CONTACT.  
FT DISULFID 94 104  
FT DISULFID 118 138  
FT MOD_RES 103 103 PHOSPHORYLATION (PARTIAL).  
FT STRAND 35 36  
FT TURN 39 40  
FT HELIX 42 51  
FT TURN 52 52  
FT HELIX 53 56  
FT TURN 57 58  
FT STRAND 63 77  
FT STRAND 81 95  
FT TURN 96 97  
FT TURN 99 100  
FT HELIX 101 108  
FT STRAND 115 125  
FT TURN 126 129  
FT STRAND 130 139  
SQ SEQUENCE 139 AA; 15287 MW; D92D113ICAD37891 CRC64;  
  
Query Match 29.1%; Score 79.5; DB 1; Length 139;  
Best Local Similarity 37.5%; Pred. No. 0.0017;  
Matches 18; Conservative 8; Mismatches 19; Indels 3; Gaps 2;  


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DB      97      VEIGRTTCPKSSGDLQSCFHFDEBPEMAKYTTCTFVVVSIPLMIQIKLL 134
RESULT 9
CYT_COTJA ID CYT_COTJA STANDARD; PRT; 116 AA.
AC P81061;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin (Egg-white cystatin)
OS Coturnix coturnix japonica (Japanese quail).
OC Eukaryota; Metazoa; Chordata; Craniota; Vertebrata; Euteleostomi;
OC Actinoptera; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Coturnix.
OX NCBI_TaxID=93934;
RN [1]
RP SEQUENCE.
RC TISSUE=Egg white;
RX MEDLINE=97420480; PubMed=9276465;
RA Gerhartz B., Engn R.A., Mentele R., Eckerskorn C., Torquato R.,
RA Wittman J., Kolb H.J., Machleidt W., Fritz H., Auerwald E.A.;
RT "Quail cystatin: Isolation and characterisation of a new member of
RT the cystatin family and its hypothetical interaction with cathepsin
RT B.,"
RT FEBS Lett. 412:551-558(1997).
CC -1- FUNCTION: This protein binds tightly to and inhibits papain and
CC cathepsin B.
CC -1- SIMILARITY: Belongs to the cystatin family.
DR HSSP: P01038; ICEM.
DR InterPro: IPR000010; Cystatin.
DR Pfam: PF00031; cystatin; 1.
DR SMART: SM00043; CY; 1.
DR PROSITE: PS00287; CYSTATIN; 1.
KW Thiol protease inhibitor; Phosphorylation.
FT ACT SITE 9 9 REACTIVE SITE.
FT SITE 53 57 SECONDARY AREA OF CONTACT.
FT DISULFID 71 81
FT DISULFID 95 115
FT MOD RES 80 80
SQ SEQUENCE 116 AA; 13093 MW; 48248621053A2F70 CRC64;
Query March 28.8%; Score 78.5; DB 1; Length 116;
Batch Local Similarity 37.5%; Pred. No. 0.0019;
Matches 18; Conservative 8; Mismatches 19; Indels 3; Gaps 2;
QY 2 VEMQWTTQCK--PETTNC-VPOEREHLKQVNCFSVPFAVPWFEEQYKIL 46
DB 64 VEIGRTTCPKSSADLQSCFHFDEBPEMAKYTTCTFVVVSIPLMIQIKLL 111
RESULT 10
CYT_COTJA ID CYT_COTJA STANDARD; PRT; 127 AA.
AC P14841;
DT 01-APR-1990 (Rel. 14, Created)
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystatin C precursor (Fragment).
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniota; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Buffalo;
RX MEDLINE=90092122; PubMed=2689174;
RA Cole T., Dickson P.W., Esmad F., Averill F., Ribridger G.,
RA Gauthier F., Schreiber G.;
RT "The cDNA structure and expression analysis of the genes for the
RT cytosolic proteinase inhibitor cystatin C and for beta 2-microglobulin
RT in rat brain.,"

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RL Eur. J. Biochem. 186:35-42(1989).
RN [2]
RP SEQUENCE OF 8-127.
RX MEDLINE=90380276; PubMed=2400577;
RA Ennard F., Ennard A., Faucher D., Capony J.-P., Derancourt J.,
RA Brillard M., Gauthier F.;
RT "Rat cystatin C: the complete amino acid sequence reveals a site for
RL N-glycosylation.";
RN Biol. Chem. Hoppe-Seyler 371:161-166(1990).
RN [3]
RP SEQUENCE OF 8-49.
RX MEDLINE=88313020; PubMed=3044831;
RA Ennard A., Ennard F., Faucher D., Gauthier F.;
RT "Two rat homologues of human cystatin C.";
RN PDBS Lett. 236:475-478(1988).
RN [4]
RP SEQUENCE OF 8-20.
RC TISSUE=Serotol cell;
RX MEDLINE=92225121; PubMed=1563513;
RA Ennard A., Ennard F., Guillon F., Gauthier F.;
RT "Production of the cysteine proteinase inhibitor cystatin C by rat
RT Serotol cells.";
RL FEBS Lett. 300:131-135(1992).
CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
CC thought to serve an important physiological role as a local
CC regulator of this enzyme activity. Known to inhibit cathepsin B,
CC H, and L.
CC -1- SIMILARITY: Belongs to the cystatin family.
CC -----
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CC -----
DR EMBL, X16957; CAA34831.1; -.
DR PIR, S07085; S07085.
DR PIR, S10587; S10587.
DR HSSP, P01034; I036.
DR InterPro: IPR000010; Cystatin.
DR Pfam, PF00031; cystatin; 1.
DR SMART, SM00043; CY; 1.
DR PROSITE, PS00287; CYSTATIN; 1.
DR KMW Thiol protease inhibitor; Signal.
FT NON TER 1 1
FT SIGNAL <1 7
FT CHAIN 8 127
FT ACT SITE 18 18 CYSTATIN C.
FT SITE 62 66 REACTIVE SITE.
FT DISULFD 80 90 SECONDARY AREA OF CONTACT.
FT DISULFD 104 124 BY SIMILARITY.
FT CONFLICT 25 25 A -> E (IN REF. 2).
SQ SEQUENCE 127 AA; 14039 MW; 78F70158B7925853 CRC64;
QY 1 NVEWQWTTQCKPRT--TNC-VPQERELHKQVNCFFSPVAPVW 39
Db 72 DVEWGRTCTKSGQTALNCPFHQDQHLRKALCSFOIATSPW 113
Query Match 28.8%; Score 78.5; DB 1; Length 127;
Best Local Similarity 40.5%; Pred. No. 0.0021;
Matches 17; Conservative 8; Mismatches 14; Indels 3; Gaps 2

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GN  CMT3.
OS  Saimiri sciureus (Common squirrel monkey).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Cebinae; Saimiri.
OX  NCBI_TaxID=9521;
RN  [1]
RP  SEQUENCE FROM N.A.
RX  MEDLINE=97054523; PubMed=8898820;
RA  Wei L.H., Walker L.C., Levy B.;
RT  "Cystatin C. Icelandic-like mutation in an animal model of
RT  cerebrovascular beta-amyloidosis."
RL  Stroke 27:2080-2085(1996).
CC  -!- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
CC  thought to serve an important physiological role as a local
CC  regulator of this enzyme activity.
CC  -!- SIMILARITY: Belongs to the cystatin family.
CC  -----
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CC  or send an email to license@isb-eb.ch).
CC  -----
CC  DR  EMBL; U52028; AAB64051.1; -.
CC  DR  HSSP; P01034; 1G96.
CC  DR  InterPro; IPR000010; Cystatin.
CC  DR  Pfam; PF00031; Cystatin, 1.
CC  DR  SMART; SMO0043; CY; 1.
CC  DR  PROSITE; PS00287; CYSTATIN, 1.
CC  KM  Thiol protease inhibitor; Amyloid, signal.
CC  FT  SIGNAL 1 26 BY SIMILARITY.
CC  FT  CHAIN 27 146 CYSTATIN C.
CC  FT  ACT SITE 37 37 REACTIVE SITE.
CC  FT  SITE 81 85 SECONDARY AREA OF CONTACT.
CC  FT  DISULFID 99 109 BY SIMILARITY.
CC  FT  DISULFID 123 143 BY SIMILARITY.
CC  SQ  SEQUENCE 146 AA; 15946 MW; 08196353C0306AA3 CRC64;

Query Match 28.0%; Score 76.5; DB 1; Length 146;
Best Local Similarity 40.5%; Pred. No. 0.0044;
Matches 17; Conservative 7; Mismatches 15; Indels 3; Gaps 2;

OY  1 NVEMQWTTCK--PETNVCVPOER-ELHKQVNCFFSYFAVPM 39
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DB  91 DVENGRITCTGNQPNLDCNCPHBDPFLKRAFCGFQIYSPW 132

RESULT 12
CYTS_HUMAN STANDARD; PRT; 141 AA.
ID  CYTS_HUMAN
AC  P01036; OSUBTS; O9UCS9;
DT  21-JUL-1986 (Rel. 01, Created)
DT  01-JUL-1993 (Rel. 26, Last sequence update)
DT  15-MAR-2004 (Rel. 43, Last annotation update)
DE  Cystatin S precursor (Salivary acidic protein-1) (Cystatin SA-III) .
GN  Cst4.
OS  Homo sapiens (Human).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.
OX  NCBI_TaxID=9606;
RN  [1]
RP  SEQUENCE FROM N.A.
RX  TISSUE-Submandibular gland;
RX  MEDLINE=91378918; PubMed=1898352;
RA  Bobek L.A., Aguirre A., Levine W.J.;
RT  "Human salivary cystatin S. Cloning, sequence analysis, hybridization
RT  in situ and immunocytochemistry."
RL  Biochem. J. 278:627-635 (1991).
CC  [2]
RN  [2]
RP  SEQUENCE FROM N.A.
RX  Satoh E., Isemura S., Sanada K., Ohnishi K.;

```


Db 86 DVEGRTCTKSGPNIDTCFHOPELQKQKSCSEIFEVPEWDRMSLVN 135

RESULT 13

ID	CYTT_HUMAN	STANDARD;	PRT;	141 AA.
AC	P09228; Q9UC07;			
DT	01-MAR-1989 (Rel. 10, Last sequence update)			
DT	01-MAR-1989 (Rel. 10, Last sequence update)			
DT	26-FEB-2003 (Rel. 41, Last annotation update)			
DE	Cystatin SA precursor (Cystatin S5).			
GN	C572.			
OC	Homo sapiens (Human).			
OC	Eumetazoa; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.			
OX	NCBI_TaxId:9606;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RX	MEDLINE=8185836;			
RT	Salton E., Kim H.-S., Smithes O., Maeda N.;			
RT	"Human cysteine-proteinase inhibitors: nucleotide sequence analysis			
RT	of three members of the cystatin gene family.";			
PL	Gene 61:329-338(1987).			
RN	[2]			
RX	SEQUENCE FROM N.A.			
RX	MEDLINE=21638749; PubMed=11780052;			
RX	Deloukas P., Matthews L.H., Ashurst J., Burton J., Gilbert J.G.R.,			
RX	Jones M., Scavrides G., Almeida J.P., Babbage A.K., Baggaley C.L.,			
RX	Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beare D.M.,			
RX	Beasley O.P., Bird C.P., Bliley S.E., Bridgeman A.M., Brown A.J.,			
RX	Buck D., Buttrill W.D., Butler A.P., Carder C., Carter N.P.,			
RX	Chapman J.C., Clapp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,			
RX	Clegg S., Cobley V.E., Collier R.E., Connor R.E., Cobby N.R.,			
RX	Coleson A., Coville G.J., Deedman R., Dhani P.D., Dunn M.,			
RX	Ellington A.G., Frankland J.A., Fraser A., French L., Garner P.,			
RX	Graham D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,			
RX	Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,			
RX	Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,			
RX	Kay M.P., Kimberley M.H., King A., Knights A., Laird G.K., Lawlor S.,			
RX	Leveasleth M.H., Leverisha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,			
RX	Marsh V.L., Martin S.L., McCormack L.J., McIay K., McMurtry A.A.,			
RX	Malne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,			
RX	Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,			
RX	Phillimore B.J.C.T., Prchalingsam S.R., Plumb R.W., Ramsey H.,			
RX	Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Showkeen R., Sims S.,			
RX	Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sultston J.E.,			
RX	Swann R.M., Symcote N., Taylor R., Tee L., Thomas D.W., Thorpe A.,			
RX	Tracey A., Tromans A.C., Vaudin M., Wall M., Wallis J.M.,			
RX	Whitehead S.L., Whitaker P., Willey D.L., Williams L., Williams S.A.,			
RX	Wilmink L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,			
RA	Rogers J.;			
RT	"The DNA sequence and comparative analysis of human chromosome 20.";			
RL	Nature 414:865-871(2001).			
RL	[3]			
RP	SEQUENCE OF 21-40.			
RP	TISSUE=Saliva;			
RX	MEDLINE=92138674; PubMed=1778989;			
RX	Isemura S., Salton E., Sanada K., Minakata K.;			
RX	"Identification of full-sized forms of salivary (S-type) cystatins			
RX	(cystatin SN, cystatin SA, cystatin S, and two phosphorylated forms of			
RX	cystatin S) in human whole saliva and determination of phosphorylation			
RX	sites of cystatin S.";			
RT	J. Biochem. 110:648-654(1991).			
RT	[4]			
RN	SEQUENCE OF 25-141.			
RX	MEDLINE=81839220; PubMed=3436950;			
RX	Isemura S., Salton E., Sanada K.;			
RX	"Characterization and amino acid sequence of a new acidic cysteine			
RX	proteinase inhibitor (cystatin SA) structurally closely related to			
RX	cystatin S, from human whole saliva.";			
RT	J. Biochem. 102:693-704(1987).			
RT	[5]			
RP	PRELIMINARY SEQUENCE OF 25-141.			

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RA Iseumura S., Satoh E., Kanada K., Iseumura M., Ito S.;
RT "Characterization and amino acid sequence of a new acidic cysteine
RL proteinase inhibitor (cystatin SA) structurally closely related to
RT cystatin S, from human whole saliva.";
RL (in Turk V. (eds.);
RN Cysteine proteinases and their inhibitors, pp.497-505,
RW Walter de Gruyter, Berlin and New York (1986).
RP [6]
RX SEQUENCE OF 25-141 FROM N.A.
SA MEDLINE=89076505; PubMed=3202964;
RT "Cystatin superfamily. Evidence that family II cystatin genes are
RL evolutionarily related to family III cystatin genes.";
RT Biol.Chem.Hoppe-Seyler 369:191-197(1988).
CC -1- FUNCTION: Thiol protease inhibitor.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- SIMILARITY: Belongs to the cystatin family.
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DR EMBL; M19673; AAA36116.1; -.
DR EMBL; M19671; AAA36116.1; JOINED.
DR EMBL; M19672; AAA36116.1; JOINED.
DR PIR; B29632; B29632.
DR HSSP; P01034; 1G96.
DR Genew; HGNC:2474; CST2.
DR MIM; 123856; -.
DR GO; GO:0004869; F:cysteine protease inhibitor activity; TAS.
DR InterPro; IPRO00010; Cystatin.
DR Pfam; PF00031; cystatin; 1.
DR SMART; SM00043; CY, 1.
DR PROSITE; PS00287; CYSTATIN_1.
KW Thiol protease inhibitor; Signal; Multigene family.
FT SIGNAL          1      20
FT CHAIN           21     141    CYSTATIN SA.
FT ACT SITE        32     32      REACTIVE SITE.
FT SITE            76     80      SECONDARY AREA OF CONTACT.
FT DISULFID        94    104      BY SIMILARITY.
FT DISULFID       118    138      BY SIMILARITY.
SQ SEQUENCE        141 AA; 16445 MW; BB54915B1B977AA2 CRC64;
Query Match               27.3%; Score 74.5; DB 1; Length 141;
Best Local Similarity 32.0%; Pred. NO. 0.0078;
Matches   16; Conservative 11; Mismatches 20; Indels 3; Gaps 2;
QY              1 NVEMQMWTCK--PETNVCVPOER-ELHKOVNCFPSVAFWPEQYKILN 47
Db             86 DIEVGRICTKSQENLDTCAFHQEPLEOKKOLCSFYIEVWEDRMSLVN 135
RESULT 14
AC ID CYTC_RABIT STANDARD; PRY; 148 AA.
AC O97862;
DT 16-OCT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Cystacin C precursor.
GN GST3.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxId=9986;
XP [1]
FP SEQUENCE FROM N.A.
RC STRAIN=Japanese white; TISSUE=Bone;
```

RX MEDLINE=98424349; PubMed=9753427;
 RA Kobachi M., Ikeda Y., Nara H., Kato M., Kamegawa M., Nojima H.,
 RA Kawachi H.;
 RT "Large scale isolation of osteoclast-specific genes by an improved
 method involving the preparation of a subtracted cDNA library.";
 RL Genes Cells 3:459-475(1998).
 CC -1- FUNCTION: This is a thiol proteinase inhibitor.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 DR EMBL; AB009342; BAB75921.1; -.
 DR HSSP; P01034; 1G96.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; cystatin; 1.
 DR SMART; SM00043; CY; 1.
 DR PROSITE; PS00267; CYSTATIN; FALSE_NEG.
 KM Thiol protease inhibitor; Signal.
 FT SIGNAL 1 28
 FT CHAIN 29 148
 FT ACT SITE 39 39 REACTIVE SITE.
 FT SITE 83 87 SECONDARY AREA OF CONTACT.
 FT DISULFID 101 111 BY SIMILARITY.
 FT DISULFID 125 145 BY SIMILARITY.
 SQ SEQUENCE 148 AA; 16346 MW; 1523C83116955B9A CRC64;
 Query Match 27.3%; Score 74.5; DB 1; Length 148;
 Best Local Similarity 32.6%; Pred. No. 0.0082;
 Matches 14; Conservative 11; Mismatches 15; Indels 3; Gaps 2;
 QY 7 TTCQKPEPT--TNC-VPOERELHKVNCFFSVFAVPMFEQYKIL 46
 DB 99 TTCTKTQTNLNCPFHQDPDQRLQRCMCSFEIYSVPMINKISIL 141
 RESULT 15
 CYTC_MOUSE STANDARD; PRT; 140 AA.
 ID CYTC_MOUSE PRT; 140 AA.
 AC P11460;
 DT 01-MAY-1991 (Rel. 18, Created)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 10-OCT-2003 (Rel. 42, Last annotation update)
 DE Cystatin C precursor (Cystatin 3).
 GN CST3.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 NC NCB1_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=BALB/c; TISSUE=Brain;
 RX MEDLINE=91054522; PubMed=2241983;
 RA Solem M., Rawson C., Lindburg K., Barnes D.;
 RT "Transforming growth factor beta regulates cystatin C in serum-free
 mouse embryo (SFM) cells.";
 RL Biochem. Biophys. Res. Commun. 172:945-951(1990).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=129/Sv; TISSUE=liver;
 RX MEDLINE=95137392; PubMed=7835704;
 RA Huh C., Nagle J.W., Kozak C.A., Abrahamson M., Karlsson S.;
 RT "Structural organization, expression and chromosomal mapping of the
 mouse cystatin-C-encoding gene (Cst3).";
 RL Gene 152:221-226(1995).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC STRAIN=ILS, and ISS;

RX MEDLINE=21363810; PubMed=11471062;
 RA Ehringer M.A., Thompson J., Conroy O., Xu Y., Yang F., Canniff J.,
 RA Beeson M., Gordon L., Bennett B., Johnson T.E., Sikela J.M.;
 RT "High-throughput sequence identification of gene coding variants
 within alcohol-related ORFs.";
 RL Mamm. Genome 12:657-663(2001).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=22388257; PubMed=12477932;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.T., Wang J., Heien F.,
 RA Diatchenko L., Marusik K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Udén T.B., Toshiyuki S., Cannici P., Mullaby S.J.,
 RA Raha S.S., Loughellano N.A., Peters G.J., Abrahamson R.D., Mullaby S.J.,
 RA Bosak S.A., McKernan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.V., Hulyk S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butlerfield Y.S.N., Krzywinski M.I., Skalska U., Smalins D.E.,
 RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length
 human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 CC -1- FUNCTION: As an inhibitor of cysteine proteinases, this protein is
 CC thought to serve an important physiological role as a local
 CC regulator of this enzyme activity.
 CC -1- SIMILARITY: Belongs to the cystatin family.
 CC -----
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 CC -----
 DR EMBL; M59470; AAA63298.1; -.
 DR EMBL; U10098; AAB41056.1; -.
 DR EMBL; AF483486; AAL90760.1; -.
 DR EMBL; AF483487; AAL90761.1; -.
 DR EMBL; BC002072; AAB02072.1; -.
 DR PIR; A36163; A36163.
 DR HSSP; P01034; 1G96.
 DR MGI; MGI:102519; Cat3.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; cystatin; 1.
 DR SMART; SM00043; CY; 1.
 DR PROSITE; PS00267; CYSTATIN; 1.
 KM Thiol protease inhibitor; Signal.
 FT SIGNAL 1 20
 FT CHAIN 21 140
 FT ACT SITE 31 31 REACTIVE SITE.
 FT SITE 75 79 SECONDARY AREA OF CONTACT.
 FT DISULFID 93 103 BY SIMILARITY.
 FT DISULFID 117 137 BY SIMILARITY.
 FT DISULFID 16 16 A -> G (IN REF. 1).
 FT CONFLICT 84 84 L -> F (IN REF. 1).
 SQ SEQUENCE 140 AA; 15531 MW; 3A563406D58D0F5 CRC64;
 Query Match 26.9%; Score 73.5; DB 1; Length 140;
 Best Local Similarity 38.1%; Pred. No. 0.011;
 Matches 16; Conservative 9; Mismatches 14; Indels 3; Gaps 2;
 QY 1 NVEMQWTTCKPEPT--TNC-VPOERELHKVNCFFSVFAVPM 39
 DB 85 DVEMGRTCTKSTQNLTDPCFHQDPDQRLQRCMCSFEIYSVPM 126

Wed Mar 24 09:21:14 2004

us-09-941-314-17.rsp

Page 11

Search completed: March 23, 2004, 17:11:07
Job time : 5.42259 secs

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OM protein - protein search, using sw model

Run on: March 23, 2004, 17:05:48 ; Search time 25.7071 Seconds
(without alignments)
589.132 Million cell updates/sec

Title: US-09-941-314-17

Perfect score: 273
Sequence: 1 NVEQMWTTCCKPRTNVCVPO.....NCFPSVFAVPWFQYKILNK 48

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :

SPTREMBL 25:*

- 1: sp_archaea:*
- 2: sp_bacteria:*
- 3: sp_fungi:*
- 4: sp_human:*
- 5: sp_invertebrate:*
- 6: sp_mammal:*
- 7: sp_mhc:*
- 8: sp_organelle:*
- 9: sp_phage:*
- 10: sp_plant:*
- 11: sp_rodent:*
- 12: sp_virus:*
- 13: sp_vertebrate:*
- 14: sp_unclassified:*
- 15: sp_virus:*
- 16: sp_bacteriophage:*
- 17: sp_archaea:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	273	100.0	138	4	Q8WUX6
2	151	55.3	139	11	Q8K5A3
3	125	45.8	103	4	Q8WUX5
4	81	29.7	130	11	Q9CX46
5	81	29.7	130	11	Q8V1I3
6	78	28.6	130	11	Q8V1I8
7	77	28.2	140	11	Q8V1I2
8	76.5	28.0	140	11	Q9BXP9
9	67.5	24.7	141	11	Q9DAP1
10	67.5	24.7	141	11	Q8OZM5
11	67	24.5	167	4	Q7Z4J8
12	65	23.8	128	11	Q8V1I2
13	64.5	23.6	148	11	Q9JMB4
14	63.5	23.3	314	13	Q7SKX6
15	63	23.1	128	11	Q9DAN8
16	63	23.1	311	11	Q7TR18

17	61	22.3	322	16	Q8DAX4	Q8dax4 vibrio vuln
18	61	22.0	447	12	Q9QAX5	Q9qax5 sitlwan vi
19	60	22.0	167	11	Q9QW15	Q9qwl5 mus musculu
20	60	22.0	174	12	Q5G3Z7	Q5g3z7 simian viru
21	59.5	21.8	325	16	Q8S5S5	Q8s5s5 bradyrhizob
22	59.5	21.8	633	5	Q9U5A9	Q9u5a9 manduca sex
23	59.5	21.8	869	5	Q9Y0Z8	Q9y0z8 drosophila
24	59.5	21.8	1041	5	Q8W1I7	Q8w1i7 drosophila
25	59.5	21.8	1041	5	Q9V1I6	Q9v1i6 drosophila
26	59	21.6	174	12	Q9W9P1	Q9w9p1 simian viru
27	57.5	21.1	367	5	Q7YTN6	Q7ytn6 caenorhabdi
28	57	20.9	311	11	Q8V086	Q8v086 mus musculu
29	57	20.9	351	10	Q9FYF0	Q9fyf0 arabidopsis
30	57	20.9	400	13	Q8V1R3	Q8v1r3 xenopus lae
31	57	20.9	546	10	Q8V1I1	Q8v1i1 arabidopsis
32	56.5	20.7	324	3	Q5S802	Q5s802 echinosach
33	56.5	20.7	421	13	Q7J739	Q7j739 gallus gall
34	56.5	20.7	643	11	Q8BXB4	Q8bxb4 mus musculu
35	56.5	20.7	643	11	Q8BU80	Q8bu80 mus musculu
36	56.5	20.7	643	11	Q8BH24	Q8bh24 mus musculu
37	56	20.5	135	6	Q9GMC5	Q9gmc5 ovis aries
38	56	20.5	176	6	Q28467	Q28467 macaca faec
39	56	20.5	302	10	Q9C7Z0	Q9c7z0 arabidopsis
40	56	20.5	315	10	Q8LAU8	Q8lau8 arabidopsis
41	56	20.5	318	4	Q16433	Q16433 homo sapien
42	56	20.5	367	16	Q9RU59	Q9ru59 delnococtus
43	56	20.5	393	6	Q9GL61	Q9gl61 oryctolagus
44	56	20.5	427	6	Q9SL55	Q9sl55 ovis aries
45	56	20.5	542	4	Q9NWV6	Q9nwv6 homo sapien

ALIGNMENTS

RESULT 1

Q8WUX6 PRELIMINARY; PRT; 138 AA.

AC Q8WUX6; 01-MAR-2002 (TREMBlrel. 20, Created)

DT 01-MAR-2002 (TREMBlrel. 20, Last sequence update)

DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)

DE SC13.

OS Homo sapiens (Human).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.

OX NCBI_TaxID=9606;

RN [1]

RP SEQUENCE FROM N.A.

RA Hamil K.G., Liu Q., Zhang Y.-L., French P.S., Hall S.H.;

RT "SC13: A novel epididymal specific member of the cystatin family."

RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.

DR EMBL; AF35480; AAL7191.1; -

DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.

DR InterPro; IPR000010; Cystatin.

DR Pfam; PF00031; Cystatin; 1.

DR SMART; SM00043; Cy; 1.

DR SEQUENCE 138 AA; 16506 MW; E49440ACA3585C64 CRC64;

Query Match 100.0%; Score 273; DB 4; Length 138;
Best Local Similarity 100.0%; Pred. No. 7.9e-10;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 NVEQMWTTCCKPRTNVCVPOREILKOVNCFPSVFAVPWFQYKILNK 48
Db 86 NVEQMWTTCCKPRTNVCVPOREILKOVNCFPSVFAVPWFQYKILNK 133

RESULT 2

Q8K5A3 PRELIMINARY; PRT; 139 AA.

AC Q8K5A3; 01-OCT-2002 (TREMBlrel. 22, Created)

DT 01-OCT-2002 (TREMBlrel. 22, Last sequence update)

DT 01-JUN-2003 (TREMBlrel. 24, last annotation update)
 DE Cystatin 11.
 GN CST11.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Sprague-Dawley;
 RA Hamil K.G., Hall S.H.;
 RL Submitted (Apr-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AF501290; AAM21709.1; -
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 DR SMART: SM00043; Cy; 1.
 SQ SEQUENCE 139 AA; 16686 MW; E1E36DB786B4D08C CRC64;
 Query Match 55.3%; Score 151; DB 11; Length 139;
 Best Local Similarity 57.4%; Pred. No. 5.8e-13;
 Matches 27; Conservative 6; Mismatches 14; Indels 0; Gaps 0;
 QY 2 VEMQWTTCKPRTTNCVPOERELHKQVNCFFSVFAVWPEQYKILNK 48
 DB 87 VEMQRTTCKLTKENKLCNVQEGELHKQICVFSYVYVFWLEVFQKLLK 133
 RESULT 3
 Q8WXX5 PRELIMINARY; PRT; 103 AA.
 AC Q8WXX5;
 DT 01-MAR-2002 (TREMBlrel. 20, Created)
 DT 01-MAR-2002 (TREMBlrel. 20, last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, last annotation update)
 DE SC13delta.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Hamil K.G., Liu Q., Zhang Y.-L., French P.S., Hall S.H.;
 RT "SC13: A novel epididymal specific member of the cystatin family."
 RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AF335481; AL71992.1; -
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 SQ SEQUENCE 103 AA; 12285 MW; 05DD92CA7387B022 CRC64;
 Query Match 45.8%; Score 125; DB 4; Length 103;
 Best Local Similarity 48.2%; Pred. No. 1.7e-09;
 Matches 27; Conservative 6; Mismatches 7; Indels 16; Gaps 2;
 QY 4 MOWTTCCKPRTTNCVPOERELHKQVNCFFSVFAVWPEQYKILNK 48
 DB 48 LQWTTDQYNES-----DDKXHPRIPLVTKVQGVNCFVFAVWPEQYKILNK 98
 RESULT 4
 Q9CX46 PRELIMINARY; PRT; 130 AA.
 AC Q9CX46;
 DT 01-JUN-2001 (TREMBlrel. 17, Created)
 DT 01-JUN-2001 (TREMBlrel. 17, last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, last annotation update)
 DE 8030411P24RIK protein.
 GN 8030411P24RIK.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;

RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Embryonic testis;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 RA Aikawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
 RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamataka I.,
 RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
 RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 RA Fleischnann W., Gaasterland T., Gissi C., King B., Kochwa H.,
 RA Kuehl P., Lewis S., Matsuo Y., Nikatido I., Pesole G., Quackenbush J.,
 RA Schriml L.M., Staudli F., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
 RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
 RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima J., Mazzarelli G., Mombauts P.,
 RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
 RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyooka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,
 RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohatsu S.,
 RA Hayaishizaki Y.;
 RT "Functional annotation of a full-length mouse cDNA collection."
 RL Nature 409:685-690(2001).
 DR EMBL: AK020193; BAB32024.1; -
 DR HSSP: P01034; 1G96.
 DR MGD: MGI:1925859; 8030411P24RIK.
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 DR SMART: SM00043; Cy; 1.
 SQ SEQUENCE 130 AA; 14947 MW; DD2F930B64B4E584 CRC64;
 Query Match 29.7%; Score 81; DB 11; Length 130;
 Best Local Similarity 37.5%; Pred. No. 0.0026;
 Matches 18; Conservative 8; Mismatches 20; Indels 2; Gaps 1;
 QY 1 NVEMQWTTCKPRTTNCVPOERELHKQVNCFFSVFAVWPEQYKIL 46
 DB 76 DLNMGRTCKKGDENHNCPLDGSREKVKVHCYQDARWFSHPFTL 123
 RESULT 5
 Q8VIL3 PRELIMINARY; PRT; 130 AA.
 AC Q8VIL3;
 DT 01-MAR-2002 (TREMBlrel. 20, Created)
 DT 01-MAR-2002 (TREMBlrel. 20, last sequence update)
 DT 01-JUN-2003 (TREMBlrel. 24, last annotation update)
 DE Cystatin SC.
 GN 8030411P24RIK.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57; TISSUE=Testis;
 RA Li Y., Friel P.J., Griswold M.D.;
 RT "Molecular cloning and characterization of cystatin SC and cystatin
 RT TR-1, new members of the cystatin family."
 RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AF40735; AL30841.1; -
 DR MGD: MGI:1925859; 8030411P24RIK.
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; cystatin; 1.
 DR SMART: SM00043; Cy; 1.
 SQ SEQUENCE 130 AA; 15076 MW; DD34930B64FE58F CRC64;
 Query Match 29.7%; Score 81; DB 11; Length 130;
 Best Local Similarity 37.5%; Pred. No. 0.0026;
 Matches 18; Conservative 8; Mismatches 20; Indels 2; Gaps 1;

QY 1 NVEQWTTCKPRT--NCVQPERELHKOVNCFPSVFAVPMPEQYKIL 46
 Db 76 DLEMGRTTCKKHENINHCPLQSSGSKVHCVFQVDRPWFHSFTLL 123

RESULT 6

OSVIRH PRELIMINARY; PRT; 130 AA.
 ID OSVIRH; 20, Created)
 AC 01-MAR-2002 (Tremblrel. 20, Last sequence update)
 DT 01-MAR-2002 (Tremblrel. 20, Last sequence update)
 DT 01-JUN-2003 (Tremblrel. 24, Last annotation update)
 DE Cystatin SC.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Sprague-Dawley; TISSUE=Testis;
 RA Li Y., Friel P.J., Griswold M.D.;
 RT "Molecular cloning and characterization of cystatin SC and cystatin
 TE-1, new members of the cystatin family."
 RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AF42205; AL35350.1; -
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; Cystatin; 1.
 DR SMART: SM00043; CY; 1.
 DR SMART: SM00043; CY; 1.
 SQ SEQUENCE 130 AA; 14981 MW; 7A752359860989C9 CRC64;

Query Match 28.6%; Score 78; DB 11; Length 130;
 Best Local Similarity 35.4%; Pred. No. 0.0067;
 Matches 17; Conservative 9; Mismatches 20; Indels 2; Gaps 1;
 QY 1 NVEQWTTCKPRT--NCVQPERELHKOVNCFPSVFAVPMPEQYKIL 46
 Db 76 DLEMGRTTCKKHENINHCPLQSSGSKVHCVFQVDRPWFHSFTVL 123

RESULT 7

OSVIRH PRELIMINARY; PRT; 140 AA.
 ID OSVIRH; 24, Created)
 AC 01-JUN-2003 (Tremblrel. 24, Last sequence update)
 DT 01-JUN-2003 (Tremblrel. 24, Last sequence update)
 DT 01-OCT-2003 (Tremblrel. 25, Last annotation update)
 DE Cystatin-like 1.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testicle;
 RC MEDLINE=2238825; PubMed=12477932;
 RA Krausberg R.L., Feinold E.A., Grouse L.H., Derge J.G.,
 RA Krausberg R.L., Colling E.A., Wagner L., Shennan C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer J., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diatchenko L., Marisela K., Farmer A.A., Rubin G.M., Hong L.,
 RA Scapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Ueda T.B., Toshiyuki S., Cantinot P., Prange C.,
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
 RA Boseak S.A., McKernan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Wozley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
 RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whitting M., Madan A., Young A.C., Shevchenko Y., Boulford G.G.,
 RA Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
 RA Krzywinski M.I., Skalek U., Smallegre D.E., Scherch A., Schein J.E.,

RA Jones S.J., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length human
 RT and mouse cDNA sequences";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testicle;
 RC STRAUBERG R.;
 RA Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
 RL EMBL: BC048646; AA048646.1; -
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR InterPro: IPR000243; Cystatin_C/M.
 DR Pfam: PF00031; Cystatin; 1.
 DR ProDom: PD001231; Cystatin_C/M; 1.
 DR SMART: SM00043; CY; 1.
 DR SMART: SM00043; CY; 1.
 SQ SEQUENCE 140 AA; 16199 MW; 32633B99C4697DA0 CRC64;

Query Match 28.2%; Score 77; DB 11; Length 140;
 Best Local Similarity 33.3%; Pred. No. 0.01; Length 140;
 Matches 16; Conservative 11; Mismatches 19; Indels 2; Gaps 1;

QY 2 VEMQWTTCKPRT--TNCVQPERELHKOVNCFPSVFAVPMPEQYKIL 47
 Db 87 VKIGRTTCKKHENINHCPLQSSGSKVHCVFQVDRPWFHSFTVL 134

RESULT 8

OSVIRH PRELIMINARY; PRT; 140 AA.
 ID OSVIRH; 16, Created)
 AC 01-MAR-2001 (Tremblrel. 16, Last sequence update)
 DT 01-MAR-2001 (Tremblrel. 16, Last sequence update)
 DT 01-JUN-2003 (Tremblrel. 24, Last annotation update)
 DE Cystatin C.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=BALB/c;
 RC MEDLINE=21010502; PubMed=11144350;
 RA Taupin P.J., Ray J., Fischer W.H., Suhr S.T., Hakansson K., Grubb A.,
 RA Gage F.H.;
 RT "Rgf-2-Responsive neural stem cell proliferation requires Ccg, a novel
 RT autocrine/paracrine cofactor."
 RL Neuron 28:385-397(2000).
 DR EMBL: AF311741; AAC40263.1; -
 DR HSP: P01034; 1G96.
 DR GO: GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro: IPR000010; Cystatin.
 DR Pfam: PF00031; Cystatin; 1.
 DR SMART: SM00043; CY; 1.
 DR PROSITE: PS00287; CYSTATIN; 1.
 DR CHAIN 21 140 CYSTATIN C.
 FT VARIANT 16 16 A -> G.
 FT VARIANT 84 84 L -> F.
 SQ SEQUENCE 140 AA; 15517 MW; 3A563406D58D785 CRC64;

Query Match 28.0%; Score 76.5; DB 11; Length 140;
 Best Local Similarity 34.0%; Pred. No. 0.012; Length 140;
 Matches 17; Conservative 11; Mismatches 19; Indels 3; Gaps 2;

QY 1 NVEQWTTCKPRT--TNCVQPERELHKOVNCFPSVFAVPMPEQYKIL 47
 Db 85 DVEMGRTTCKKHENINHCPLQSSGSKVHCVFQVDRPWFHSFTVL 134

RESULT 9

OSVIRH PRELIMINARY; PRT; 141 AA.
 ID OSVIRH; 141 AA.
 AC OSVIRH; 141 AA.

DT 01-JUN-2001 (TReMBLrel. 17, Created)
 DT 01-JUN-2001 (TReMBLrel. 17, Last sequence update)
 DT 01-JUN-2003 (TReMBLrel. 24, Last annotation update)
 DE 1700006C19RIK protein.
 GN 1700006C19RIK.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 NCBI_TaxID=10090;
 RX [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=Testis;
 RX MEDLINE=21085660; Pubmed=11217851;
 RA Kawai J., Shingawa A., Shibata K., Yoshino M., Itoh M., Ishi Y.,
 RA Arakawa T., Hara A., Fukunishi Y., Kono H., Adachi T., Fukuda S.,
 RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
 RA Saito T., Okazaki Y., Gojibori T., Bono H., Kasukawa T., Saito R.,
 RA Kadoya K., Matsuda H.A., Ashburner M., Batalov S., Casanova T.,
 RA Pleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,
 RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
 RA Schirml L.M., Staudl F., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Sakai K., Okido T., Furuno M., Kono H., Baldarelli R., Barak O.,
 RA Blake J., Botfield D., Boujarda N., Carninci P., de Bonaldo M.F.,
 RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 RA Grotzinger S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombarto N.,
 RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
 RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyooka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,
 RA Wyshaw-Boris A., Yoshida K., Hasegawa Y., Kawai H., Kohetsu S.,
 RA Hayashizaki Y.,
 RA "Functional annotation of a full-length mouse cDNA collection."
 RT Nature 409:685-690(2001).
 RL EMBL: AK005665; BAB24175.1; -
 DR HSSP: P01038; ICBM.
 DR WMD; MG11516544; 1700006C19RIK.
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; cystatin; 1.
 DR SMART; SM00043; CY; 1.
 SQ SEQUENCE 141 AA; 1681 MW; C20FA0DB81AC378C CRC64;
 Query Match 24.7%; Score 67.5; DB 11; Length 141;
 Best Local Similarity 34.0%; Pred. No. 0.21;
 Matches 17; Conservative 10; Mismatches 20; Indels 3; Gaps 2;
 QY 2 VEMQWTTCKQ--PETTNCV--PQERELHKQVNCFFSVFAVMPFEOYKLINK 48
 DB 87 VNIAFTCKKVIAGDNENCLFQDDPKKKMVFICIFIVSSKWKPELKLK 136
 RESULT 10
 Q80ZNS PRELIMINARY; PRT; 141 AA.
 AC Q80ZNS;
 DT 01-JUN-2003 (TReMBLrel. 24, Created)
 DT 01-JUN-2003 (TReMBLrel. 24, Last sequence update)
 DT 01-OCT-2003 (TReMBLrel. 25, Last annotation update)
 DE RIKEN cDNA 1700006C19 gene.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testicle;
 RA Strassberg R.;
 RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL; BC048681; AA48681.1; -
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR InterPro; IPR003243; Cystatin_C/M.
 DR Pfam; PF00031; cystatin; 1.

DR ProDom; PD001231; Cystatin_C/M; 1.
 DR SMART; SM00043; CY; 1.
 SQ SEQUENCE 141 AA; 1682 MW; C20FA0DB8A84951F CRC64;
 Query Match 24.7%; Score 67.5; DB 11; Length 141;
 Best Local Similarity 34.0%; Pred. No. 0.21;
 Matches 17; Conservative 10; Mismatches 20; Indels 3; Gaps 2;
 QY 2 VEMQWTTCKQ--PETTNCV--PQERELHKQVNCFFSVFAVMPFEOYKLINK 48
 DB 87 VNIAFTCKKVIAGDNENCLFQDDPKKKMVFICIFIVSSKWKPELKLK 136
 RESULT 11
 Q724J8 PRELIMINARY; PRT; 167 AA.
 AC Q724J8;
 DT 01-OCT-2003 (TReMBLrel. 25, Created)
 DT 01-OCT-2003 (TReMBLrel. 25, Last sequence update)
 DT 01-OCT-2003 (TReMBLrel. 25, Last annotation update)
 DE Cystatin F (leukocystatin).
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Kohnine N., Chen X., Rolfs A., Halleck A., Hines L., Eisenstein S.,
 RA Koundinya M., Raphael J., Moreira D., Kelley T., LaBaer J., Lin Y.,
 RA Phelan M., Farnier A.;
 RL Submitted (AUG-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL; BT009825; AAP88827.1; -
 SQ SEQUENCE 167 AA; 18857 MW; E339025A5BD60177 CRC64;
 Query Match 24.5%; Score 67; DB 4; Length 167;
 Best Local Similarity 31.2%; Pred. No. 0.29;
 Matches 15; Conservative 12; Mismatches 17; Indels 4; Gaps 2;
 QY 2 VEMQWTTCKQPE--TTNCV--PQERELHKQ--VNCFFSVFAVMPFEOYK 45
 DB 114 VEIGRTTCKNGHLRDDCDPQNNHLTKQLTSCSEVWVVPWLOHPEV 161
 RESULT 12
 Q8VII2 PRELIMINARY; PRT; 128 AA.
 AC Q8VII2;
 DT 01-MAR-2002 (TReMBLrel. 20, Created)
 DT 01-MAR-2002 (TReMBLrel. 20, Last sequence update)
 DT 01-JUN-2003 (TReMBLrel. 24, Last annotation update)
 DE Cystatin TB-1.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Sprague-Dawley; TISSUE=Testis;
 RA Li Y., Friel P.J., Griswold M.D.;
 RT "Molecular cloning and characterization of cystatin SC and cystatin
 TB-1, new members of the cystatin family."
 RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF440736; AL30842.1; -
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR Pfam; PF00031; cystatin; 1.
 DR SMART; SM00043; CY; 1.
 SQ SEQUENCE 128 AA; 15152 MW; BC158982F58DA535 CRC64;
 Query Match 23.8%; Score 65; DB 11; Length 128;
 Best Local Similarity 34.7%; Pred. No. 0.42;
 Matches 17; Conservative 7; Mismatches 23; Indels 2; Gaps 1;

Qy 1 NMEMOWTTCOK--PETTNCVPOERELHKOVCNCFPSVAVPWFQYKILN 47
 Db 74 DLEMGRILCKRYDDIDNCPQEGSPKAKRCTIVETRVWVFETILN 122

RESULT 13

Q9JMB4 PRELIMINARY; PRT: 148 AA.

AC 09JMB4; (T-EMBLrel. 15, Created)

DT 01-OCT-2000 (T-EMBLrel. 15, Last sequence update)

DT 01-OCT-2000 (T-EMBLrel. 25, Last sequence update)

DE 01-JUN-2003 (T-EMBLrel. 24, Last annotation update)

DE 01-JUN-2003 (T-EMBLrel. 24, Last annotation update)

GN CST10 OR DD72.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
 NCBI_TaxID=10090;

RP SEQUENCE FROM N.A.
 [1]

RA Ikegawa S., Nakamura Y.;
 RT "DD72, a novel mouse gene implicated in the early stage of ectopic
 RT ossification.";
 RL Submitted (JAN-2000) to the EMBL/GenBank/DBJ databases.
 [2]

RP SEQUENCE FROM N.A.
 RC STRAIN=FVB/N; TISSUE=Salivary gland;
 RA Strauberg R.;
 RL Submitted (MAR-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AB036743; BAA95411.1; -
 DR EMBL; BC048364; AAH48364.1; -
 DR HSP; P01034; I096.
 DR MCD; MGI1930004; Cc10.
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR InterPro; IPR001713; StefinA.
 DR Pfam; PF00031; cystatin; 1.
 DR PRINTS; PR00295; STEFINA.
 DR SMART; SM00043; CY1.1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 SQ SEQUENCE 148 AA; 16451 MW; 637534CBFC5A179 CRC64;

Query Match 23.6%; Score 64.5; DB 11; Length 148;
 Best Local Similarity 30.6%; Pred. No. 0.56; 21; Indels 3; Gaps 2;
 Matches 15; Conservative 10; Mismatches 21; Indels 3; Gaps 2;

Qy 2 VEMQWTTQCPERT--TNCVPOER-ELHKOVCNCFPSVAVPWFQYKILN 47
 Db 94 IELGRTTCTKTESNLVDCPFNEQDDQKRVLCNQNIVAPPLNMGSMTN 142

RESULT 14

Q7SKX6 PRELIMINARY; PRT: 314 AA.

AC 07SKX6; (T-EMBLrel. 25, Created)

DT 01-OCT-2003 (T-EMBLrel. 25, Last sequence update)

DT 01-OCT-2003 (T-EMBLrel. 25, Last sequence update)

DE Hypochemical protein.

OS Brachydanio rerio (Zebrafish) (Danio rerio).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
 OC Cyprinidae; Danio.
 NCBI_TaxID=7955;

RP SEQUENCE FROM N.A.
 [1]

RA Strauberg R.L., Felngold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heien F.,
 RA Datchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.B.,
 RA Brownstein M.J., Udén T.B., Tohyuki S., Abramson R.D., Mullaly S.J.,
 RA Raha S.S., Loguettano N.A., Peters G.J., Malek J.A., Gunaratne P.H.,
 RA Bosak S.A., McEwan P.J., McKernan K.J., Gay L.J., Huij S.W.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Huij S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.W., Butterfield Y.S.,
 RA Kozminski M.I., Skalska U., Smalins D.E., Schnerch A., Schein J.E.,
 RA Jones S.J., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length human
 RT proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 [2]

RP SEQUENCE FROM N.A.
 RC STRAIN=AB; TISSUE=Body;
 RA Strauberg R.;
 RL Submitted (AUG-2003) to the EMBL/GenBank/DBJ databases.
 DR EMBL; BC055558; AAH55558.1; -
 DR EMBL; BC055558; AAH55558.1; -
 KW Hypothetical protein.
 SQ SEQUENCE 314 AA; 36803 MW; 26B6F690C6FCA48 CRC64;

Query Match 23.3%; Score 63.5; DB 13; Length 314;
 Best Local Similarity 44.1%; Pred. No. 1.7; 13; Indels 1; Gaps 1;
 Matches 15; Conservative 5; Mismatches 13; Indels 1; Gaps 1;

Qy 8 TCQKPTTNCVPOERELHKOVCNCFPSVAVPWFQYKILN 41
 Db 225 TCTLPETVAVPQIDPSKENNLTFT-YSVHMG 257

RESULT 15

Q9DAN8 PRELIMINARY; PRT: 128 AA.

AC 09DAN8; (T-EMBLrel. 17, Created)

DT 01-JUN-2001 (T-EMBLrel. 17, Last sequence update)

DT 01-JUN-2001 (T-EMBLrel. 24, Last annotation update)

DE 1700006F03RIK protein (Cystatin TE-1).

GN 1700006F03RIK.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
 NCBI_TaxID=10090;

RP SEQUENCE FROM N.A.
 [1]

RA Strauberg R.;
 RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AB036743; BAA95411.1; -
 DR EMBL; BC048364; AAH48364.1; -
 DR HSP; P01034; I096.
 DR MCD; MGI1930004; Cc10.
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR InterPro; IPR001713; StefinA.
 DR Pfam; PF00031; cystatin; 1.
 DR PRINTS; PR00295; STEFINA.
 DR SMART; SM00043; CY1.1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 SQ SEQUENCE 148 AA; 16451 MW; 637534CBFC5A179 CRC64;

Query Match 23.3%; Score 63.5; DB 13; Length 314;
 Best Local Similarity 44.1%; Pred. No. 1.7; 13; Indels 1; Gaps 1;
 Matches 15; Conservative 5; Mismatches 13; Indels 1; Gaps 1;

Qy 8 TCQKPTTNCVPOERELHKOVCNCFPSVAVPWFQYKILN 41
 Db 225 TCTLPETVAVPQIDPSKENNLTFT-YSVHMG 257

RESULT 15

Q9DAN8 PRELIMINARY; PRT: 128 AA.

AC 09DAN8; (T-EMBLrel. 17, Created)

DT 01-JUN-2001 (T-EMBLrel. 17, Last sequence update)

DT 01-JUN-2001 (T-EMBLrel. 24, Last annotation update)

DE 1700006F03RIK protein (Cystatin TE-1).

GN 1700006F03RIK.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
 NCBI_TaxID=10090;

RP SEQUENCE FROM N.A.
 [1]

RA Strauberg R.;
 RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AB036743; BAA95411.1; -
 DR EMBL; BC048364; AAH48364.1; -
 DR HSP; P01034; I096.
 DR MCD; MGI1930004; Cc10.
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR InterPro; IPR001713; StefinA.
 DR Pfam; PF00031; cystatin; 1.
 DR PRINTS; PR00295; STEFINA.
 DR SMART; SM00043; CY1.1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 SQ SEQUENCE 148 AA; 16451 MW; 637534CBFC5A179 CRC64;

Query Match 23.3%; Score 63.5; DB 13; Length 314;
 Best Local Similarity 44.1%; Pred. No. 1.7; 13; Indels 1; Gaps 1;
 Matches 15; Conservative 5; Mismatches 13; Indels 1; Gaps 1;

Qy 8 TCQKPTTNCVPOERELHKOVCNCFPSVAVPWFQYKILN 41
 Db 225 TCTLPETVAVPQIDPSKENNLTFT-YSVHMG 257

RESULT 15

Q9DAN8 PRELIMINARY; PRT: 128 AA.

AC 09DAN8; (T-EMBLrel. 17, Created)

DT 01-JUN-2001 (T-EMBLrel. 17, Last sequence update)

DT 01-JUN-2001 (T-EMBLrel. 24, Last annotation update)

DE 1700006F03RIK protein (Cystatin TE-1).

GN 1700006F03RIK.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
 NCBI_TaxID=10090;

RP SEQUENCE FROM N.A.
 [1]

RA Strauberg R.;
 RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AB036743; BAA95411.1; -
 DR EMBL; BC048364; AAH48364.1; -
 DR HSP; P01034; I096.
 DR MCD; MGI1930004; Cc10.
 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR InterPro; IPR001713; StefinA.
 DR Pfam; PF00031; cystatin; 1.
 DR PRINTS; PR00295; STEFINA.
 DR SMART; SM00043; CY1.1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 DR PROSITE; PS00287; CYSTATIN; 1.
 SQ SEQUENCE 148 AA; 16451 MW; 637534CBFC5A179 CRC64;

Query Match 23.3%; Score 63.5; DB 13; Length 314;
 Best Local Similarity 44.1%; Pred. No. 1.7; 13; Indels 1; Gaps 1;
 Matches 15; Conservative 5; Mismatches 13; Indels 1; Gaps 1;

Qy 8 TCQKPTTNCVPOERELHKOVCNCFPSVAVPWFQYKILN 41
 Db 225 TCTLPETVAVPQIDPSKENNLTFT-YSVHMG 257

RESULT 15

Q9DAN8 PRELIMINARY; PRT: 128 AA.

AC 09DAN8; (T-EMBLrel. 17, Created)

DT 01-JUN-2001 (T-EMBLrel. 17, Last sequence update)

DT 01-JUN-2001 (T-EMBLrel. 24, Last annotation update)

DE 1700006F03RIK protein (Cystatin TE-1).

GN 1700006F03RIK.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
 NCBI_TaxID=10090;

RP SEQUENCE FROM N.A.
 [1]

RA Strauberg R.;
 RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AB036743; BAA95411.1; -
 DR EMBL; BC048364; AAH48364.1; -
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 DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
 DR InterPro; IPR000010; Cystatin.
 DR InterPro; IPR001713; StefinA.
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 DR PRINTS; PR00295; STEFINA.
 DR SMART; SM00043; CY1.1.
 DR PROSITE; PS00287; CYSTATIN; 1.
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Query Match 23.3%; Score 63.5; DB 13; Length 314;
 Best Local Similarity 44.1%; Pred. No. 1.7; 13; Indels 1; Gaps 1;
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Qy 8 TCQKPTTNCVPOERELHKOVCNCFPSVAVPWFQYKILN 41
 Db 225 TCTLPETVAVPQIDPSKENNLTFT-YSVHMG 257

RESULT 15

Q9DAN8 PRELIMINARY; PRT: 128 AA.

AC 09DAN8; (T-EMBLrel. 17, Created)

DT 01-JUN-2001 (T-EMBLrel. 17, Last sequence update)

DT 01-JUN-2001 (T-EMBLrel. 24, Last annotation update)

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GN 1700006F03RIK.

OS Mus musculus (Mouse).

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 DR EMBL; AB036743; BAA95411.1; -
 DR EMBL; BC048364; AAH48364.1; -
 DR HSP; P01034; I096.
 DR MCD; MGI19300

RA Li Y., Friel P.J., Griswold M.D.;
RT "Molecular cloning and characterization of cystatin SC and cystatin
TE-1, new members of the cystatin family."
RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL: AK005670; BAB24179.1; -
DR EMBL: AF440737; AAL30843.1; -
DR MGD; MG1:1916612; I700006F03R1k.
DR GO; GO:0004869; F:cysteine protease inhibitor activity; IEA.
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DR Pfam; PF00031; Cystatin; 1.
DR SMART; SM00043; Cy; 1
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Matches 16; Conservative 8; Mismatches 23; Indels 2; Gaps 1;

QY 1 NVEKQMTTCOK--PETTNCVPEQERELHKQVNCFFSVFAVWFEEQKILN 47
DB 74 DLEWGRITCGKYDEIDINCPLQEGPGERKVRCTYIVETEAWTKFTILN 122

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